# ON-FARM BIODIESEL PRODUCTION IN VERMONT

# Legal and Regulatory Overview



#### Acknowledgements

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#### **EXECUTIVE SUMMARY**

This report aims to inform farmers interested in producing biodiesel on their own farm about the potential laws and regulations that may be triggered when adding biodiesel production to their farming activities. While several of the federal regulations are only triggered by high levels of production, there are a number of state laws and regulations that may be triggered by smallscale biodiesel production, such as state air emission provisions that establish lower thresholds when compared to the federal Clean Air Act ("CAA"). In addition, it is critical to understand the role biodiesel production plays in the definition of "farm" and "farming activities" for the purpose of states laws, such as Act 250 and the Current Use Program.

The report summarizes the laws and regulatory findings of Vermont Law School's Institute for Energy and the Environment ("IEE") and is divided into five chapters. The first chapter describes the federal and state tax liabilities and incentives related to biodiesel production, and addresses activities covered under the Current Use Program. Chapter 2 analyses applicable site regulations, in particular Vermont's Act 250, local zoning rules, and fire and building safety codes. Chapter 3 addresses occupational safety and health rules and the respective thresholds in which biodiesel production facilities are triggered. Chapter 4 deals with potential registration requirements for biodiesel production facilities under the authority of the Internal Revenue Service ("IRS"), Renewable Fuel Standards ("RFS") program, and environmental agencies. Finally, Chapter 5 analyses applicable environmental laws and regulations regarding air emissions, water pollution, waste disposal, and community right-to-know requirements.

A brief conclusion of the major findings of each Chapter is presented below, followed by an analysis of three potential scenarios. Since the laws and regulations are difficult to understand, the scenarios present a list of presumptions in which farmers can easily recognize which scenario they are likely to fall in, and what requirements they should pay closest attention to.

#### **CHAPTER 1. TAX LEGISLATION**

Tax law is complex and fact specific in its application. There a number of federal and state laws that are applicable to the production of biodiesel, in particular if the fuel is sold for on-road purposes. At the federal level, there are two specific provisions under the Internal Revenue Code ("IRC") that may be applicable to biodiesel: sections 4081 and 4041. None of the taxes are applicable if the biodiesel produced on-farm is used for off-highway business or used on-farm for farming purposes. If the biodiesel produced does not fall into these exemptions, and the farmer plans to sell biodiesel that contains at least 4 percent of parrafins (§4081), or sells or uses the biodiesel for diesel-powered highway vehicle use (§4041), the farmer is liable for the applicable tax. Both taxes are currently established at \$ 0.243 per gallon. The IRC also contains several federal tax incentives relating to the production, sale, and/or use of biodiesel, including income and excise tax credits. Those include the \$1.00 per gallon Biodiesel Mixture Credit, \$1.00 Biodiesel Credit, and the 10 cents Small Agri-biodiesel Producer Credit.

At the state level, biodiesel that is used for the generation of power to propel motor vehicles may be taxed under the biodiesel mixtures provision. The current tax is at \$0.28 per gallon, plus another \$0.01 fee and \$0.03 motor fuel transportation infrastructure assessment per gallon. The use of biodiesel for off-highway motor vehicles is not triggered by this tax. Differently from the federal law, there are no biodiesel specific taxes in Vermont applicable to farmers who are only involved with the production of biodiesel.

The main incentive for farmers at the state level, however, is the Use Value Appraisal Program, commonly known as the Current Use Program. The Current Use Program allows agricultural land, forest land, and farm buildings to be taxed at their agricultural or forest value - rather than at their potential development value - providing a great financial incentive to farmers who are enrolled in the program. But farm facilities are only eligible to be enrolled in the program if they fall into the definition of "farm buildings." Besides other requirements, to be considered a "farm building" the biodiesel production facility must use, at least, 75 percent of crops produced on the farm - a high threshold especially for farmers interested in using a cooperative model or charging a processing fee to generate biodiesel in their facility. "Farm building" definition is also directly linked to the concept of "farmer," which is any person who earns more than half of his/her gross income from the business of farming. In addition, it is important to have in mind that only the first \$100,000 of the value of the facility processing farm crops would be exempted from local property taxes, with the remaining being charged at their potential development value.

#### **CHAPTER 2. SITE REGULATIONS**

The main site regulation in Vermont is the Land Use Law, or Act 250. Farms are often exempted from permitting requirements under Act 250. Among other activities, farming includes the "on-site storage, preparation, production, and sale of fuel or power from agricultural products or wastes principally produced on the farm."<sup>1</sup> While the term "principally produced" is not defined under the Act 250 rules regarding the production of fuel, the same term is defined for "on-site storage, preparation and sale of agricultural products" as "more than 50% (either by volume or weight) of the ingredients or materials contributing to a final agricultural product [] is grown or produced on the farm."<sup>2</sup> Thus, if the biodiesel production facility uses more than 50% of crops and other materials that come from the farm, the facility is likely to be exempted from Act 250. The same logic applies to the processing fee model where one farmer owns the equipment, and other farmers bring their crops to be processed at that farm. Regarding the business cooperative model, which a group of farmers cooperatively own the machinery to produce biodiesel, the facility is unlikely to meet Act 250's farming exemption as presented in an Act 250 jurisdictional opinion from 2010.<sup>3</sup>

Other siting rules include local zoning rules, and fire and building safety codes. Regarding local zoning, on-farm biodiesel facilities may not be required to follow local zoning if: (i) more than 50 percent of the inputs to the facility are produced on the farm, and (ii) at least one of the four criteria in the definition of "Farm Structure" in Section 2.06 of the Accepted Agricultural Practices ("AAPs") is present. This includes a structure that is used in connection with the sale of \$1,000 or more of agricultural products in a normal year, and a structure that is on a farm with a business and farm management plan approved by the Secretary, among others. Due to the complexity of the rules, it is strongly advised that interested farmers inquire with the Agency of Agriculture, and obtain a written opinion on the exemption of a specific project.

The fire and building rules are codified in the Vermont's Fire and Building Safety Code ("Code"). Farm buildings are usually exempted from the Code if they: (i) have fewer than the equivalent of 10 full-time employees who are not family members and who do not work more

<sup>&</sup>lt;sup>1</sup> 10 V.S.A. §6001 (22).

<sup>&</sup>lt;sup>2</sup> Act 250 Rules.

<sup>&</sup>lt;sup>3</sup> Natural Resources Board – District 5 Environmental Commission, *Jurisdictional Opinion #5-09* (2010). Available at http://www.nrb.state.vt.us/lup/jo/2010/5-09.pdf.

than 26 weeks a year; and (ii) whose owner is actively engaged in farming. However, unlike Act 250, the fuel production is not listed as farming activity under the Code. Thus, it is unclear whether this activity is exempted from the Code, or if the omission is a sign that facilities that produce biodiesel, which has fire and explosion potential, must comply with the fire and building safety rules.

#### **CHAPTER 3. OCCUPATIONAL SAFETY AND HEALTH**

The Occupational Safety and Health ("OSH") rules aim to "identify[], evaluat[e] and prevent[] disasters in the workplace."<sup>4</sup> Biodiesel production facilities must comply with the General Duty Clause that "requires employers to provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm."<sup>5</sup> In addition, facilities that process more than 10,000 pounds of flammable liquids and flammable mixtures will also trigger a number of OSH regulations. Biodiesel, methanol, glycerin, potassium methylate, and sodium methylate are some of the production related substances that fall into OSHA categories that require a level of care from manufacturers to protect workers. In particular, these substances may trigger three potential hazards that are specific to biodiesel production and handling: Fire and Explosion Hazards; Chemical Reactivity Hazards; and Toxicity Hazards. If so, farmers must comply with a set of rules, including: (i) Process Safety Management of Highly Hazardous Chemicals; (ii) Flammable and Combustible Liquids; (iii) Hazard Communication; (iv) Respiratory Protection; (v) Personal Protective Equipment; (vi) Welding, Cutting, and Brazing; (vii) Permit-Required Confined Spaces; and (viii) Control of Hazardous Energy (lockout/tagout).

#### **CHAPTER 4. REGISTRATION**

There are five types of registration that may be applicable to biodiesel production facilities. The first refers to IRS registration, which must be fulfilled by any person producing or importing biodiesel. Currently the regulations are unclear on how they apply to biodiesel, but the 2008 Proposed Regulations include new provisions expressly addressing biodiesel producers and registration under IRC § 4101.

<sup>&</sup>lt;sup>4</sup> Biodiesel Magazine, *Biodiesel Process Safety Management*. Available at

http://www.biodieselmagazine.com/articles/7663/biodiesel-process-safety-management

<sup>&</sup>lt;sup>5</sup> U.S. Department of Labor, Occupational Safety & Health Administration. *Green Job Hazards*. Available at https://www.osha.gov/dep/greenjobs/index.html\_.

The second registration is under the RFS Program. The registration is mandatory for producers that generate 10,000 gallons or more of renewable fuel per year, and voluntary for anyone who produces less than this amount. Qualified renewable fuels include cellulosic and advanced biofuel from biomass-based fuel with lifecycle greenhouse gas emissions that are at least 50 percent less than the baseline lifecycle greenhouse gas emissions. Renewable fuels include fuels used for non-road applications and heating oil that meets the standards established in 40 C.F.R. § 80.2(ccc) or "used to heat interior spaces of homes or buildings to control ambient climate for human comfort."<sup>6</sup> By registering with the RFS program, biodiesel producers may sell Renewable Identification Numbers ("RINs") to refiners who are required to blend renewable fuel into transportation fuel.

The third refers to the Annual Registration for any stationary sources, such as biodiesel production facility, that emit more than 5 tons of air contaminants per year. The Vermont Agency of Natural Resources' Department of Environmental Conservation ("DEC") is the agency responsible for issuing this registration. In addition, the Environmental Protection Agency ("EPA") requires two registrations for those triggered by the legislation. The first is the Fuel and Fuel Additive Registration System ("FFARS"),<sup>7</sup> required for those selling biodiesel to third parties for on-road purposes as a motor vehicle (B100), or motor vehicle diesel fuel additive (for blend fuel such as B5 and B20).<sup>8</sup> Biodiesel that is not being sold or used on off-road vehicles, engines, or equipment, does not need to be register under FFARS. The second EPA's registration is a mandatory registration for refiners, which applies for both on-road and off-road biodiesel.9

#### **CHAPTER 5. ENVIRONMENTAL LEGISLATION**

There are a number of federal and state environmental laws and regulations that may be applicable to biodiesel production facilities, in particular concerns related to air emissions, water pollution, waste, and community right-to-know. Most of the requirements are implemented and enforced by the state of Vermont, through DEC.

<sup>&</sup>lt;sup>6</sup> 40 C.R.F. §80.1401. <sup>7</sup> 40 C.R.F. §79.4(a) and (b).

<sup>&</sup>lt;sup>8</sup> As defined in 40 C.R.F. \$79.56(e)(4)(ii)(B)(2).

<sup>&</sup>lt;sup>9</sup> 40 C.F.R. Part 80.

#### **AIR EMISSION REQUIREMENTS**

Regarding air emissions, two specific requirements may be applicable to biodiesel production facilities: Construction Permit and Operating Permit.

The Construction Permit is required by any source that falls into the 17 categories described under Section 5-401 of the Vermont Air Pollution Control Regulations. While on-farm biodiesel production facilities are not explicitly listed in the categories, it may fall under the "manufacturing, processing and application of chemicals" category, or any other sources that would not otherwise qualify but the Air Pollution Control Office designates on a case-by-case basis as an air contaminant source.<sup>10</sup>

The second air emission permit is the Operating Permit, applicable to any source that meets the requirements of the Construction Permit and emits at least 10 tons of air pollutants per year. Among others, regulated air contaminants likely to be emitted from a biodiesel facility include particulates, volatile organic compounds, methanol or ethanol fumes, and hexane.

#### WATER REQUIREMENTS

There a number of water requirements under federal and state laws. The requirements are mostly related to additional infrastructure used for the production of biodiesel and the potential discharge of wastewater or stormwater. This report presents the most likely water requirements to be triggered by on-farm biodiesel production, such as: (i) Underground and Aboveground Storage Tank requirement; (ii) Spill, Control, and Countermeasure Plan ("SPCC"); (iii) Wastewater Discharge Permit; (iv) Stormwater Permits; (v) Underground Injection Control Permit; (vi) Wastewater Disposal System Permit; (vii) Groundwater Withdrawal Permit and Reporting; and (viii) Water Quality Certification.

The Underground and Aboveground Tank Storage requirements are required for anyone installing a new or modifying an existing storage tank containing regulated substances, such as "motor fuel which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute)."<sup>11</sup> The requirements for underground storage tank – registration and permit - are exempted for tanks that: (i) have a storage capacity

<sup>&</sup>lt;sup>10</sup> The full list of the 17 categories is present in the Agency of Natural Resources, *Air Pollution Control Regulations* (2014). Available at http://www.anr.state.vt.us/air/docs/regs2014/AQCD\_Regulations\_2014\_Dec.pdf<sup>11</sup> Vermont Underground Storage Tank Rules §8-201.

equal to or less than 1,100 gallons, and (ii) are used to store motor fuel for noncommercial purposes, or heating oil to be used on-premises heating purposes.<sup>12</sup> The requirements for the installation of a new aboveground storage tank, or the substantial improvement of an existing one, includes compliance with installation and design standards, and emergency and corrective actions, as set forth in Vermont's Aboveground Storage Tank Rules.<sup>13</sup>

The SPCC is required by any biodiesel production facility that meets the following three criteria: (i) non-transportation facility engaging in producing, storing, processing, distributing, using or consuming oil products; (ii) has a total aboveground oil storage capacity greater than 1,320 gallons or a completely buried oil storage capacity greater than 42,000 gallons; and (iii) have a reasonable expectation of an oil discharge in quantities that may be harmful into or upon navigable water of the United States or adjoining shoreline. If the facility falls into these three criteria, the farmer must prepare and implement a SPCC before the beginning of operations.

The water discharge permits are pre-discharge permits required for anyone planning to discharge wastewater with high strength waste or toxic pollutants, such as glycerin, methanol, and biodiesel. Thus, if the farmer plans to discharge wastewater containing some of these pollutants into state surface water, he/she must seek a Direct Discharge Permit.<sup>14</sup> On the other hand, if the wastewater is intended to be direct discharged to a municipal wastewater treatment system in: (i) a minimum of 25,000 gallons per day of wastewater, (ii) a minimum of 5 percent of the receiving municipal wastewater treatment system capacity, or (iii) have been determined to have a significant potential to affect a municipal wastewater treatment system,<sup>15</sup> the farmer must seek a Pretreatment Discharge Permit.

Similarly, a permit will be needed in specific stormwater cases. Under the current law, there are three different stormwater permits that an on-farm biodiesel facility might be required to obtain from the DEC. The first - the Stormwater General Permit for Construction Sites - is required for any construction project that disturbs more than 1 acre of land.<sup>16</sup> The Stormwater Permit for New Development and Redevelopment is required for "new development in which the area of all impervious surfaces generating regulated stormwater runoff is equal to or greater than

<sup>&</sup>lt;sup>12</sup> 10 V.S.A. §1923(e).

<sup>&</sup>lt;sup>13</sup> 10 V.S.A. §1929a(b).

<sup>&</sup>lt;sup>14</sup> 10 V.S.A. §1263(a).

<sup>&</sup>lt;sup>15</sup> 40 C.F.R. §403.3 (v)(ii).

<sup>&</sup>lt;sup>16</sup> 10 V.S.A. §1264(d)(1)(D).

1 acre [or] from the expansion of existing impervious surfaces by 5,000 square feet, at an existing development, if total resulting impervious surface is greater than 1 acre."<sup>17</sup> Finally, the Multi-Sector General Permit (MSGP) for Discharges from Industrial Activities is required for stormwater runoff from certain categories of industrial activity,<sup>18</sup> with a likelihood that the process of refining biodiesel may fall into one of the categories. Since it is unclear whether onfarm biodiesel production facilities are exempt from these permits, it is highly recommended that the farmer contact the DEC's permitting specialists.

In addition to the other requirements, if the farmer plans to construct a new injection well or modify an existing one for the discharge of non-sanitary wastewater, it must obtain an Underground Injection Control ("IUC") permit.<sup>19</sup> Under Chapter 11 of the Environmental Protection Rules, facilities that produces chemicals and allied products, registered under the Standard Industrial Classification ("SIC") numbers 2813 – 2899, and 3952, are required to get an IUC permit.<sup>20</sup>

Likewise, the construction of a wastewater disposal system or the modification, replacement or change in connection of an existing one, requires a pre-construction permit.<sup>21</sup> The permit is also required in case of the construction of a new building or structure, the modification of an existing building or structure, or the change in its use, which results in an increase in the design flow or modifies other operational requirements of a wastewater system.<sup>22</sup> The permit application includes: project description, previous permits, location, water supply, soil data, water supply design, among others.<sup>23</sup>

If as part of the biodiesel production, the farmer increases the farm's groundwater withdrawal, a Groundwater Withdrawal Permit and Reporting might be required. Farming activities, as established in 10 V.S.A. § 6001(22) are exempted from both requirements.<sup>24</sup>

<sup>&</sup>lt;sup>17</sup> Agency of Natural Resources, State of Vermont Permit and License Information: Stormwater Permits for New Development and Redevelopment. Available at http://www.anr.state.vt.us/dec/permit\_hb/sheet06\_2.pdf <sup>18</sup> See Appendix D for list of regulated activities at

http://www.anr.state.vt.us/dec/waterq/stormwater/docs/msgp/sw msgp 2011 Permit Appendices.pdf,.

<sup>&</sup>lt;sup>19</sup> Environmental Protection Rules, Chapter 11 §302 (a).

<sup>&</sup>lt;sup>20</sup> Environmental Protection Rules, Chapter 11 §302 (a)(1)(A)(iii).

<sup>&</sup>lt;sup>21</sup> 10 V.S.A. §1973 (a)(3) and (7).

<sup>&</sup>lt;sup>22</sup> 10 V.S.A. §1973 (a)(5), (6) and (8).

<sup>&</sup>lt;sup>23</sup> For full information, please visit Vermont's Agency of Natural Resources Wastewater System and Potable Water Supply Rules at http://drinkingwater.vt.gov/dwrules/pdf/vtwsr2010.pdf<sup>24</sup> 10 V.S.A. 1416 (1).

However, if the production of biodiesel does not meet the definition of "farming", for example by using less than 50% of the crops produced on the farm, the farmer must file:

- A request for Groundwater Withdrawal Permit, if the farmer makes a new or increased groundwater withdraw of more than 57,600 gallons a day for commercial and industrial purposes;<sup>25</sup> and
- A Groundwater Withdrawal Report, if the farmer withdraws "more than 20,000 gallons per day of groundwater, averaged over a calendar month at a single tract of land of place of business."<sup>26</sup>

Finally, a Water Quality Certification is required anytime a federal license or permit to "conduct any activity including, but not limited to, the construction or operation of facilities, which result in any discharge into the navigable waters"<sup>27</sup> is needed.

# WASTE REQUIREMENTS

The main federal waste control laws regarding biodiesel production facilities are the Toxic Substance Control Act ("TSCA")<sup>28</sup> and Resource Conservation and Recovery Act ("RCRA").<sup>29</sup> For biodiesel production facilities potential waste requirements include: (i) Hazardous Waste Treatment, Storage, and Disposal Facility ("TSDF") Permit; (ii) Hazardous Waste Handler Site Identification Number; and (iii) Pre-Manufacture Notice.

The TSDF permit is required for facilities that treat, storage or dispose hazardous wastes, such as glycerin, methanol, and spent filter media. However, there are a number of situations where the TSDF is not required, and farmers consequently shall only comply with the specific standards. The exempted situations include:

• on-site storage of hazardous waste for less or equal to 90 days if the facility generates more than 2,200 pounds/month;<sup>30</sup>

<sup>&</sup>lt;sup>25</sup> 10 V.S.A. 1418 (a).

<sup>&</sup>lt;sup>26</sup> Environmental Protection Rules Chapter 24, Groundwater Withdrawal Reporting and Permitting Rules § 24-301. Available at http://drinkingwater.vt.gov/dwrules/pdf/lgwdadoptedrulechp24.pdf

<sup>&</sup>lt;sup>27</sup> 33 U.S.C. §1341(a).

<sup>&</sup>lt;sup>28</sup> 15 U.S.C. §2601, et. seq.

<sup>&</sup>lt;sup>29</sup> 42 U.S.C. §6901, et seq.

<sup>&</sup>lt;sup>30</sup> 40 C.F.R. §262.34 (a), and Vermont Hazardous Waste Management Regulations §7-308(a).

- on-site storage of hazardous waste for less or equal to 180 days if the facility generates between 220 and 2,200 pounds /month, and if the quantity of waste accumulated on-site never exceeds 13,200 pounds;<sup>31</sup>
- on-site storage of hazardous waste for less or equal to 270 days if the facility generates between 220 and 2,200 pounds /month, the waste will be transported to off-site treatment, storage or disposal facility distant 200 miles or more, and never accumulated on-site waste over 13,200 pounds;<sup>32</sup> or
- if the facility generates less than 220 pounds /month of hazardous waste.<sup>33</sup>

If the biodiesel facility generates, treats, stores or disposes of hazardous waste, it shall also seek an EPA waste handler identification number.<sup>34</sup> The handler identification number must be obtained before the activity takes place.

Besides the TSDF permit and the handler identification number, a Pre-Manufacture Notice ("PMN") may also be required. The PMN will be required if the biodiesel facility is producing for commercial purposes a substance that falls into the "new chemical substance" definition. The notice must be submitted to EPA at least 90 days prior to its production.<sup>35</sup> Exempted substances from the notice requirements are substances that are manufactured in quantities of 10,000 kilograms or less per year and have low environmental releases and human exposures.<sup>36</sup> In this case, the farmer must only submit a notice of intent to manufacture 30 days before the operation to EPA.<sup>37</sup>

#### **COMMUNITY RIGHT-TO-KNOW REQUIREMENTS**

The Community Right-to-Know requirements refer to communication requisites which facilities producing and storing specific amounts of extremely hazardous substances and toxic chemicals, such as methanol, must notify state and local emergency response commissions. These requirements include: (i) Emergency Planning (Section 302); (ii) Emergency Release Notification (Section 304); (iii) Hazardous Chemical Storage Reporting Requirement (Sections

<sup>&</sup>lt;sup>31</sup> 40 C.F.R. §262.34 (d), and Vermont Hazardous Waste Management Regulations §7-307(a).

<sup>&</sup>lt;sup>32</sup> 40 C.F.R. §262.34 (e).

<sup>&</sup>lt;sup>33</sup> 40 C.F.R. §261.5(a), and Vermont Hazardous Waste Management Regulations §7-306.

<sup>&</sup>lt;sup>34</sup> 10 V.S.A. §6608(f) and Vermont Hazardous Waste Management Regulations §7-304(a) and §104 (a).

<sup>&</sup>lt;sup>35</sup> 15 U.S.C. §2604(a)(1).

<sup>&</sup>lt;sup>36</sup> 40 C.F.R. §723.50 (a).

<sup>&</sup>lt;sup>37</sup> 40 C.F.R. §723.50 (e).

311/312); and (iv) Toxic Release Inventory (Section 313). All of the requirements have specific thresholds for each regulated substance. This report provides further details about quantities and substances in Chapter 5, but the table below provides an overview of the information:<sup>38</sup>

	Section 302	Section 304	Sections 311/312	Section 313
Chemicals Covered	355 Extremely Hazardous Substances	>1,000 substances	Approximately 500,000 hazardous chemicals	> 650 Toxic Chemicals and categories
Thresholds	Threshold Planning Quantity 1-10,000 pounds on site at any one time	Reportable quantity, 1-5,000 pounds, released in a 24-hour period	500 pounds or TPQ whichever is less for EHSs; 75,000 gallons for gasoline; 100,000 gallons for diesel and 10,000 pounds for all other hazardous chemicals	25,000 pounds per year manufactured or processed; 10,000 pounds a year otherwise used; persistent bioaccumulative toxics have lower thresholds

In addition to these four requirements, biodiesel production facilities may also trigger the Emergency Release Notification under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"),<sup>39</sup> if the biodiesel facility releases hazardous substances in quantities equal or greater than the reportable quantities established in 40 C.F.R. §320.4.

Finally, a Pollution Prevention Planning will be triggered if the facility: (i) routinely generates more than 2,640 pounds of hazardous waste per year or more than 26.4 pounds of acutely hazardous waste per year; or (ii) is classified as a large user.<sup>40</sup> Larger users are defined as facilities that have ten or more full-time employees, registered under SIC Code 20 through 39, and manufactures, processes or uses more than 1,000 pounds of toxic substance per year.<sup>41</sup>

<sup>&</sup>lt;sup>38</sup> The table is provided in EPA, *Emergency Planning and Community Right-to-Know Factsheet* (September, 2012). Available at http://www2.epa.gov/sites/production/files/2013-08/documents/epcra\_fact\_sheet.pdf

<sup>&</sup>lt;sup>39</sup> 42 U.S.C. §9601, et seq.

<sup>&</sup>lt;sup>40</sup> 10 V.S.A. §6625(c).

<sup>&</sup>lt;sup>41</sup> 10 V.S.A. §6624(4).

#### **SCENARIOS**

The complexity of the laws and regulations make it difficult to understand what laws might be triggered by the production of on-farm biodiesel for a specific project. In order to assist farmers, presented here are three scenarios of various thresholds and requirements farmers falling in each of the scenarios will likely face when producing on-farm biodiesel. The requirements included in each scenario are based on the likelihood of the project needing to meet them and are not meant to replace a more thorough review of the specific requirements detailed in the report. All scenarios assume that the interested farmer is actively engaged in farming activities.

#### LIGHTLY REGULATED ON-FARM BIODIESEL PRODUCTION FACILITIES

The first scenario is likely the scenario that most Vermont farmers reading this report will fall into. Under this scenario only a few requirements are triggered by the addition of on-farm of the production biodiesel. The requirements that could be triggered under this scenario include:

- Pay the development value of the processing facility that surpasses \$100,000;
- Fire & Building Codes;
- IRS registration;
- EPA's refiners registration;
- Construction Permit for Stationary Air Contaminant Sources;
- Vermont Aboveground Storage Tank Rules;
- Multi-Sector General Permit for Discharges from Industrial Activities; and
- Vermont Hazardous Waste Handler Site Identification.

Under this scenario, the production of biodiesel is relatively small, and, consequently, there are insignificant air, water pollutants and hazardous waste releases. Below is a list of presumptions made to reach this scenario:

#### DO'S

#### **DON'TS**

 $\sqrt{}$  USE THE BIODIESEL SOLELY ON THE FARM WITH  $\sqrt{\text{SELL TO THIRD PARTIES}}$ NO ON-ROAD APPLICATION  $\sqrt{\text{HIRE EMPLOYEES TO WORK ON THE FARM}}$  $\sqrt{\text{USE}}$ , AT LEAST, 75% OF CROPS THAT HAVE BEEN PRODUCED ON THE FARM TO GENERATE BIODIESEL  $\sqrt{\text{Emit}}$  more than 5 tons of Air contaminants  $\sqrt{\text{EARN}}$  MORE THAN HALF YOUR GROSS INCOME FROM THE BUSINESS OF FARMING PER YEAR  $\sqrt{MEET}$  one of the four definition of Farm  $\sqrt{\text{USE A UNDERGROUND STORAGE TANK}}$ STRUCTURE IN SECTION 2.06 OF AAPS  $\sqrt{\text{USE}}$  an Aboveground Storage Tank with  $\sqrt{MANUFACTURE A NEW CHEMICAL SUBSTANCE}$ LESS THAN 1,320 GALLONS OF CAPACITY  $\sqrt{\text{WITHDRAW 20,000 GALLONS OR MORE OF}}$  $\sqrt{\text{OVERALL DEVELOPMENT LESS THAN 1 ACRE OF}}$ GROUNDWATER PER DAY LAND  $\sqrt{\text{STORE}}$ , DISPOSE OR TREAT LESS THAN 220  $\sqrt{\text{DISCHARGE WASTEWATER}}$ POUNDS PER MONTH OF HAZARDOUS WASTE  $\sqrt{\text{Have}}$ , at any given time, less than 500, or  $\sqrt{\text{CONSTRUCT}}$  OR MODIFY AN EXISTING INJECTION THEIR RESPECTIVE THRESHOLD PLANNING WELL QUANTITIES, OF EXTREMELY HAZARDOUS **SUBSTANCE**  $\sqrt{\text{Have}}$ , at any given time, less than 10,000  $\sqrt{\text{CONSTRUCT}}$  OR MODIFY AN EXISTING POUNDS OF HAZARDOUS CHEMICALS WASTEWATER DISPOSAL SYSTEM  $\sqrt{\text{DISCHARGE INTO MUNICIPAL WASTEWATER}}$ TREATMENT SYSTEM OF LESS THAN THE MINIMUM REQUIRED FOR A PRE-TREATMENT DISCHARGE PERMIT\*

#### MEDIUM REGULATED ON-FARM BIODIESEL PRODUCTION FACILITIES

The second scenario is a little more complex. This scenario is likely to be the scenario which farmers seeking a cooperative or processing fee model may fall into. Under this scenario more requirements are likely to be triggered by the addition on-farm of the production biodiesel. The requirements that could be potentially triggered under this scenario include:

- IRC 4041 Tax Liability;
- Vermont's Biodiesel Mixtures Tax;
- Disqualification of the facility under the Current Use Program;
- Act 250 Permit under the cooperative model;
- Fire & Building Codes;
- OSH Act General Duty Clause;
- IRS Registration;
- RFS Registration (if produces more than 10,000 gallons per year of qualified fuel);
- DEC's Annual Registration;
- EPA's refiners registration;
- Construction Permit for Stationary Air Contaminant Sources;
- Vermont Underground Storage Tank Registration and Permit, or Vermont Aboveground Storage Tank Rules, as applicable;
- Multi-Sector General Permit for Discharges from Industrial Activities;
- Groundwater Withdrawal Reporting;
- Vermont Hazardous Waste Handler Site Identification; and
- Emergency Planning (if meet the thresholds planning quantities for the Extremely Hazardous Substances).

Under this scenario there is a higher production of biodiesel – but still fewer than 100,000 gallons per year – and consequently more significant air, water pollutants and hazardous waste releases - but not enough to trigger all environmental requirements. Below is a list of presumptions made to reach this scenario:

#### DO'S

#### **DON'TS**

 $\sqrt{\text{BIODIESEL IS USED IN OTHER FAMERS THROUGH A}}$  $\sqrt{\text{SELL TO THIRD PARTIES}}$ COOPERATIVE OR PROCESSING FEE MODEL  $\sqrt{10}$  Hire more than 10 full-time employees who  $\sqrt{}$  USE THE BIODIESEL FOR ON-ROAD PURPOSES ARE NOT FAMILY MEMBERS AND WHO WORK MORE THAN 26 WEEKS PER YEAR  $\sqrt{\text{EMIT}}$  more than 5 tons of AIR contaminants  $\sqrt{\text{EMIT}}$  more than 10 tons of Air PER YEAR CONTAMINANTS PER YEAR  $\sqrt{\text{USE}}$ , at least, 50% of crops that have been  $\sqrt{PROCESS LESS THAN 10.000 POUNDS OF}$ PRODUCED ON THE FARM TO GENERATE BIODIESEL FLAMMABLE LIQUIDS AND FLAMMABLE MIXTURES  $\sqrt{\text{USE}}$  an Underground storage tank or an  $\sqrt{\text{USE}}$  an Aboveground Storage tank with ABOVEGROUND STORAGE TANK 1,320 GALLONS OR MORE, OR A BURIED CAPACITY OF 42,000 GALLONS OR MORE  $\sqrt{\text{CONSTRUCT}}$  or modify an existing injection  $\sqrt{\text{EARN}}$  MORE THAN HALF YOUR GROSS INCOME FROM THE BUSINESS OF FARMING WELL  $\sqrt{MEET}$  ONE OF THE FOUR DEFINITION OF FARM  $\sqrt{\text{CONSTRUCT}}$  OR MODIFY AN EXISTING STRUCTURE IN SECTION 2.06 OF AAPS WASTEWATER DISPOSAL SYSTEM  $\sqrt{\text{DISCHARGE OF WASTEWATER INTO STATE}}$  $\sqrt{\text{OVERALL DEVELOPMENT OF LESS THAN 1 ACRE}}$ OF LAND SURFACE WATERS  $\sqrt{\text{DISCHARGE INTO MUNICIPAL WASTEWATER}}$  $\sqrt{M}$  MANUFACTURE NEW CHEMICAL SUBSTANCE TREATMENT SYSTEM OF LESS THAN THE MINIMUM  $\sqrt{\text{Have}}$ , at any given time, 500, or their REQUIRED FOR A PRE-TREATMENT DISCHARGE **RESPECTIVE THRESHOLD PLANNING QUANTITIES,** PERMIT\* OF EXTREMELY HAZARDOUS SUBSTANCE, OR  $\sqrt{\text{PRODUCE AND STORES LESS THAN 2,200 POUNDS}}$ 10,000 POUNDS OR MORE OF OTHER HAZARDOUS PER MONTH OF HAZARDOUS WASTE SUBSTANCES.  $\sqrt{WITHDRAW}$  more than 20.000 Gallons per  $\sqrt{WITHDRAW}$  MORE THAN 57.600 GALLONS PER DAY OF GROUNDWATER. DAY OF GROUNDWATER.

\* 25,000 GALLONS PER DAY, MINIMUM OF 5 PERCENT OF THE RECEIVING MUNICIPAL WASTE TREATMENT SYSTEM CAPACITY OR THAT HAVE NOT BEEN DETERMINED TO HAVE A SIGNIFICANT IMPACT ON THE SYSTEM

#### LARGELY REGULATED ON-FARM BIODIESEL PRODUCTION FACILITIES

Finally, the third scenario refers to a large-scale production of biodiesel on-farm. It is unlikely that farmers in Vermont will fall into this scenario if biodiesel production remains a complementary activity to their farming activities. Under this scenario several requirements are likely to be triggered by the addition on-farm of the production biodiesel. The requirements that could be potentially triggered under this scenario include:

- IRC 4081 if the Biodiesel contains 4% or more of paraffins;
- IRC 4041, if IRC 4081 is not applicable;
- Disqualification of the facility under the Current Use Program;
- Act 250 Permit;
- Local Zoning Rules;
- Fire & Building Codes;
- OSH Act General Duty Clause and OSH Act Requirements<sup>42</sup>
- IRS Registration;
- RFS Registration (if the fuel is a qualified biodiesel);
- DEC's Annual Registration;
- EPA's FFARS and Refiners Registration;
- Construction Permit for Stationary Air Contaminant Sources;
- Operation Permit for Stationary Sources;
- Underground Storage Tank Registration and Permit;
- SPCC (if there is a reasonable expectation that oil discharges in quantities that may be harmful into or upon navigable waters of the United States or adjoining shorelines);
- Pre-treatment Discharge Permit;
- Multi-Sector General Permit for Discharge from Industrial Activities, and other stormwater permits as applicable;
- Underground Injection Control Permit;
- Wastewater Disposal System Permit;

<sup>&</sup>lt;sup>42</sup> OSH Act Requirements includes compliance with (i) process safety and management of highly hazardous chemicals, (ii) hazard communication, (iii) respiratory protection, (iv) personal protective equipment, (v) welding, cutting and brazing, (vi) permitting required confined spaces, (vii) control of hazardous energy, (viii) hazardous (classified) locations, and (ix) material safety datasheet,

- Groundwater Withdrawal Permit and Reporting;
- Water Qualification;
- TSDF Permit;
- Vermont Hazardous Waste Handler Site Identification;
- Pre-Manufacture Notice;
- Emergency Planning;
- Hazardous Chemical Storage Reporting Requirements;
- Toxic Release Inventory; and
- Pollution Prevention Planning.

Under this scenario, the production of biodiesel is large – above 100,000 gallons per year – and, consequently, there are insignificant air, water pollutants and hazardous waste releases. Below is a list of presumptions made to reach this scenario:

#### DO's

$\sqrt{ m The Biodiesel produced is sold to third}$	hire more than 10 full-time employees who	
PARTIES FOR ON-ROAD APPLICATIONS	ARE NOT FAMILY MEMBERS AND WHO WORK MORE	
	THAN 26 WEEKS PER YEAR	
$\sqrt{ m Withdraw}$ more than 57,600 groundwater	Emit more than 10 tons of air	
PER DAY	CONTAMINANTS PER YEAR	
Use less than 50% of crops that have been	Use an Underground storage tank with	
PRODUCED ON THE FARM TO GENERATE BIODIESEL	42,000 GALLONS OF CAPACITY OR MORE	
$\sqrt{ m discharge}$ of water into state surface	$\sqrt{ m Construct}$ or modify an existing injection	
WATERS OR DISCHARGE INTO MUNICIPAL	WELL	
WASTEWATER TREATMENT SYSTEM, BUT NOT INTO	$\sqrt{ m Overall}$ development is more than 1 acre	
A STATE WATER SURFACE	$\sqrt{ m Construct}$ or modify an existing	
$\sqrt{ m Produce}$ more than 10,000 pounds of	WASTEWATER DISPOSAL SYSTEM	
FLAMMABLE LIQUIDS AND FLAMMABLE MIXTURES	$\sqrt{ m Manufacture}$ new chemical substance in	
$\sqrt{ m Produces}$ more than 2,640 pounds of	QUANTITIES GREATER THAN 10,000 KILOGRAMS	
HAZARDOUS WASTE PER YEAR.	PER YEAR	

# CONCLUSION

The on-farm production of biodiesel provides farmers with a sustainable, renewable alternative to fossil fuels. This report was developed to help farmers make the best management decisions when considering adding biodiesel production to their farming activities. Some of the laws and regulations analyzed in this report are unlikely to be triggered by small production of biodiesel, especially if the fuel produced is not sold and solely used for on-farm, off-road purposes. However, even in these cases special attention must be given to the state definition of "farm" and "farming activities." Generally, it is strongly recommended that interested farmers inquire with the responsible agencies to discuss further details of a specific project.

#### **INTRODUCTION**

Several farms in Vermont have started to produce biofuel to meet their, and potentially others', transportation and heating demands. However, there is a concern that the addition of biofuel production may be considered a separate operation from farming activities, and, consequently, trigger different regulatory requirements. In order to support the interested farmers, Vermont Sustainable Jobs Fund ("VSJF"), as part of its US DOE funded Vermont Bioenergy Initiative (DE-FG36-08GO88182) requested Vermont Law School's Institute for Energy and the Environment ("IEE") to develop a regulatory and legal review of on-farm biofuel production in Vermont. The research focuses on the relevant federal and state regulations that may be triggered when adding on-farm biofuel production to a farm business, and their respective thresholds. This report summarizes the findings of the review conducted by IEE.

#### ASSUMPTIONS

Several assumptions were made while developing this report. The first assumption is that ethanol, as a final product, is not being produced by the interested farmers. Consequently, ethanol is not subject to the present analysis. For this reason, the report will use the word "biodiesel" instead of "biofuel", because the later often includes ethanol. Second, this report only considers the production of biodiesel for transportation and heating purposes. No laws and regulations strictly related to the generation of electricity from biodiesel were analyzed under the present research. Third, this report only considers the production of biodiesel. Further issues not related to biodiesel production, such as crop plantation and liability for damages in vehicles which the produced fuel is being used, will not be considered.

#### DISCLAIMER

The work of the IEE is intended to assist and expedite professional assessment. The IEE is an academic organization and its work does not purport to be, and is not the equivalent of, the work of a licensed professional with expertise in this area. The IEE does not provide legal services, advice, or consultation. Any legal assistance must be the subject of a separate agreement with a licensed attorney. Before making significant decisions based on this work, it would be appropriate to consider consultation with a licensed professional with expertise in this field.

# **CHAPTER 1. TAX LEGISLATION**

Tax law is complex and fact specific in its application. The liabilities and incentives are set in two levels - federal and state - with few communications among them and with definitions that vary greatly. Thus, to understand if the tax liability or incentives are applicable, interested farmers must pay attention to the different definitions established for each section. Appendix A provides a list with the pertinent definitions for each section of the federal law.

#### I. INTERNAL REVENUE CODE

The federal tax treatment of biodiesel has changed a number of times throughout the last decade, and additional changes are currently pending Congressional approval. The U.S. Internal Revenue Code of 1986 ("IRC"),<sup>43</sup> the Internal Revenue Regulations promulgated thereunder ("Regulations"),<sup>44</sup> and various Internal Revenue Service ("IRS") publications, such as Revenue Rulings and IRS Notices,<sup>45</sup> govern the federal tax treatment of on-farm biodiesel production. In 2008 the IRS issued a *Notice of Proposed Rulemaking: Alcohol Fuel and Biodiesel; Renewable Diesel; Alternative Fuel; Diesel-Water Fuel Emulsion; Taxable Fuel Definitions; Excise Tax Returns* ( "2008 Proposed Regulations"),<sup>46</sup> which addressed tax credits and tax payments for biofuels. Although the 2008 Proposed Regulations are not yet final, they are in the "Final Rule Stage",<sup>47</sup> and are likely to become final Regulations. Accordingly, farmers should consider these proposed biodiesel regulations when determining the federal tax treatment of on-farm biodiesel production.

#### A) **DEFINITIONS**

To determine what tax liability and/or tax incentives may apply, it is important to understand some key definitions set out in the IRC and how the IRS has interpreted those definitions. The

<sup>&</sup>lt;sup>43</sup> 26 U.S.C.

<sup>&</sup>lt;sup>44</sup> 26 C.F.R. The Internal Revenue Regulations include interpretive and legislative regulations issued by the Secretary of the Treasury, and may be proposed regulations, temporary regulations, or final regulations. They are binding on the IRS, but not on the courts.

<sup>&</sup>lt;sup>45</sup> See http://www.legalbitstream.com/irs\_materials.asp?pl=i2; and Part 4, Chapter 10, Section 7 of the Internal Revenue Manual ("IRM") at http://www.irs.gov/irm/part4/irm\_04-010-007.html.

 <sup>&</sup>lt;sup>46</sup> See 73 Fed. Reg. 43890 (2008), Available at http://www.gpo.gov/fdsys/pkg/FR-2008-07-29/pdf/E8-17270.pdf.
 <sup>47</sup> For the current status of Proposed Regulations 2008 see the Office of Information and Regulatory Affairs, Office of Management and Budget at http://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201404&RIN=1545-BF17.

<sup>&</sup>lt;sup>48</sup> Section 4.10.7.2.3.3 (01-01-2006) of the IRM provides in relevant part, "[t]axpayers may rely on a proposed regulation, although they are not required to do so. Examiners, however, should follow proposed regulations, unless the proposed regulation is in conflict with an existing final or temporary regulation."

IRC contains several definitions of biofuels for tax purposes.<sup>49</sup> Although this report focuses on the federal tax treatment of *biodiesel*, it is important to understand that the particular biofuel produced may constitute something other than biodiesel for tax purposes, with potentially different tax consequences.<sup>50</sup> In some cases, certain biofuels may fall within more than one fuel classification.<sup>51</sup> Where this occurs, coordination rules generally work to ensure that a particular volume of biofuel is not "double counted" for tax purposes.<sup>52</sup> For a detailed list of the different fuel, transactions and equipment definitions related to the production of biodiesel please see Appendix A.

#### B) TAX LIABILITY

Biodiesel may be subject to excise tax under sections 4081 or 4041 of the IRC. Liability arises in this context because the IRC treats the biodiesel as taxable diesel fuel (§4081), or because the biodiesel is used, or sold for use, in a diesel powered highway vehicle (§4041). *IRC § 4081: Taxable Fuel* 

Section 4081 of the IRC imposes excise tax on certain removals, entries, and sales of taxable fuel and blended taxable fuel. The current excise tax rate is \$0.243 per gallon.<sup>53</sup> The person responsible for paying the tax may be the refiner, position holder, terminal operator, and/or the blender, depending on the circumstances.<sup>54</sup>

Taxable fuels include gasoline, diesel fuel, and kerosene.<sup>55</sup> Most relevantly, diesel fuel includes "any liquid, other than gasoline, which is suitable for use as a fuel in a diesel-powered highway vehicle," without further blending or processing; it does not include "excluded liquids."<sup>56</sup> Under the current law, any liquid that contains less than 4% normal partafins is an

<sup>&</sup>lt;sup>49</sup> For a full discussion on the various fuel types and definitions *see* Thomas Weiss, *Tax Incentives for Using Biomass to Produce Diesel-Based Fuels* (May 4, 2011). Available at

http://www.weisstax.com/docs/BioDiesel%20Tax%20Credits%20Paper.pdf. See also, Deborah Gordon, Taylor Cortright, and Ruth Hoffman, KPMG LLP, *The Basics of Biodiesel and Renewable Diesel: Tax Incentives and Excise Taxation* (December 23, 2013).

<sup>&</sup>lt;sup>50</sup> The federal tax treatment of biofuels not falling within the IRC definition of "biodiesel," "biodiesel mixture," and "agri-biodiesel" is beyond the scope of this report.

<sup>&</sup>lt;sup>51</sup> For example, it appears that biofuel made with grass or algae may be a second-generation biofuel and biodiesel; biofuel made from grass may also qualify as renewable diesel; biofuel made from seed oils may qualify as both biodiesel and agri-biodiesel.

<sup>&</sup>lt;sup>52</sup> Note, though, that a fuel may be both "biodiesel" and "agri-biodiesel" for tax purposes.

<sup>&</sup>lt;sup>53</sup> 26 U.S.C. §4081(a)(2)(A)(iii).

<sup>&</sup>lt;sup>54</sup> 26 C.F.R. §48.4081-2 and § 48.4081-3.

<sup>&</sup>lt;sup>55</sup> 26 U.S.C. §4083(a)(1).

<sup>&</sup>lt;sup>56</sup> 26 C.F.R. §48.4081-1(c)(2)(ii).

excluded liquid.<sup>57</sup> Although biodiesel is suitable for use in a diesel powered highway vehicle, neat biodiesel is not treated as diesel fuel for tax purposes because it contains less than 4% paraffins.<sup>58</sup> However, if biodiesel is blended with diesel fuel outside the bulk system and the mixture contains 4% paraffins or more, the mixture constitutes a blended taxable fuel and the previously untaxed biodiesel portion of the mixture becomes subject to excise tax under \$4081(b).<sup>59</sup>

The 2008 Proposed Regulations expand the scope of biodiesel mixtures subject to excise tax under 4081. The 2008 Proposed Regulations provide that all biodiesel mixtures and renewable diesel mixtures that contain at least 0.1% diesel fuel will be captured by the definition of diesel fuel, regardless of paraffin content.<sup>60</sup>

# IRC § 4041: Biodiesel Used or Sold for Use in Diesel Powered Highway Vehicles

If IRC § 4081 does not apply, biodiesel may still be subject to excise tax under section 4041. Under §4041, a tax is imposed on "any liquid other than gasoline" that is either (i) sold by any person to an owner, lessee, or other operator of a diesel-powered highway vehicle, or (ii) used by any person as a fuel in a diesel-powered highway vehicle (unless (i) applies).<sup>61</sup> The current rate of tax is \$0.243 per gallon.<sup>62</sup>

In general, the operator of the highway vehicle using biodiesel is liable for the tax imposed. The seller may be jointly and severally liable for the tax imposed if the seller knows or has reason to know that the fuel will not be used in a nontaxable use.<sup>63</sup> The tax under § 4041 is not applicable if the fuel has already been taxed under IRC §4081.<sup>64</sup>

<sup>&</sup>lt;sup>57</sup> 26 C.F.R. §48.4081-1(b).

<sup>&</sup>lt;sup>58</sup> See Revenue Ruling 2002-76, 2002-2 C.B. 840.

<sup>&</sup>lt;sup>59</sup> 26 U.S.C. § 4081(b). See, Deborah Gordon, Taylor Cortright, and Ruth Hoffman, KPMG LLP, *The Basics of Biodiesel and Renewable Diesel: Tax Incentives and Excise Taxation* (December 23, 2013).

<sup>&</sup>lt;sup>60</sup> 2008 Proposed Regulations, Par. 14.1.c and Par. 20. 73 Fed. Reg. 43890 (2008).

<sup>&</sup>lt;sup>61</sup> 26 U.S.C. §4041(a)(1)(A).

<sup>&</sup>lt;sup>62</sup> 26 U.S.C. §4041(a)(1)(C).

<sup>&</sup>lt;sup>63</sup> 26 C.F.R. §48.4082-4(a)(2).

<sup>&</sup>lt;sup>64</sup> 26 U.S.C. §4041(a)(1)(B).

# **EXEMPTIONS FROM IRC TAX LIABILITY**

Neither of the taxes under §§4081 and 4041 are applicable to specific situations, such as for fuels that are used or sold for use in an off-highway business use<sup>1</sup> or on-farm for farming purposes.<sup>2</sup> Because both of these situations are probably the situations in which most of the interested Vermont farmers fall into, there is no federal tax liability for farmers producing and using their own biodiesel for off-highway and on-farm purposes.

Notes

<sup>1</sup> 26 U.S.C. §§ 4082 (b) and 4041(b)(1)(A), respectively.

<sup>2</sup> 26 U.S.C. §§ 4082 (b) and 4041(f), and 26 C.F.R. § 48.4082-4(c)(1).

#### C) TAX INCENTIVES

The IRC contains several federal tax incentives relating to the production, sale, and/or use of biodiesel, including income and excise tax credits. Income tax incentives that are currently in place and apply to biodiesel, mostly for sale, are the Biodiesel Mixture Credit, the Biodiesel Credit, and the Small Agri-biodiesel Producer Credit. However, before the end of 2013, a number of other tax credits were applicable, in particular the Biodiesel Income Tax Credit (§40A) and Biodiesel Excise Tax Credit (§6426). Because both expired on December 31, 2013, they are not part of this section. But, since they are often amended and retroactively extended, Appendix B presents information regarding the legislative history of expired Federal Tax Incentives for Biodiesel, as well as current bills pending approval for potential extensions. *Biodiesel Mixture Credit* 

The Biodiesel Mixture Credit is a \$1.00 per gallon<sup>65</sup> of biodiesel used by the taxpayer in the production of a qualified biodiesel mixture that is: (i) sold by the taxpayer for use as a fuel or used by the taxpayer for use as a fuel;<sup>66</sup> and (ii) such sale or use by the taxpayer is in the taxpayer's trade or business.<sup>67</sup> The credit does not apply to casual off-farm production of biodiesel mixture,<sup>68</sup> or if a credit has been obtained for the mixture under IRC §§6426 or 6427(e).<sup>69</sup>

#### Biodiesel Credit

The Biodiesel Credit is \$1.00 per gallon of biodiesel,<sup>70</sup> for biodiesel that is not mixed with petroleum-diesel fuel and is used by the taxpayer for use as a fuel in trade or business, or sold by

<sup>&</sup>lt;sup>65</sup> 26 U.S.C. §40A(b)(1)(A).

<sup>&</sup>lt;sup>66</sup> 26 U.S.C. §40A(b)(1)(B).

<sup>&</sup>lt;sup>67</sup> 26 U.S.C. §40A(b)(1)(C).

<sup>&</sup>lt;sup>68</sup> 26 U.S.C. §40A(b)(1)(D).

<sup>&</sup>lt;sup>69</sup> 26 U.S.C. §40A(c).

<sup>&</sup>lt;sup>70</sup> 26 U.S.C. §40A(b)(2)(A).

the taxpayer at retail and placed in the fuel tank of the purchaser's vehicle.<sup>71</sup> The credit is not available to the retail purchaser.<sup>72</sup>

# Small Agri-biodiesel Producer Credit

The Small Agri-biodiesel Producer Credit is 10 cents per gallon of qualified agri-biodiesel produced by an eligible small agri-biodiesel producer.<sup>73</sup> Qualified agri-biodiesel production includes agri-biodiesel used or sold by the agri-biodiesel producer to another person:

- for use in the production of qualified biodiesel mixture in the producer's or such other person's trade or business (other than casual off-farm production);
- for use by the producer or such other person as a fuel in a trade or business; or
- who sells such agri-biodiesel at retail to another person and places it in the fuel tank of such other person.<sup>74</sup>

To qualify for this income tax credit, the agri-biodiesel producer must not have a productive capacity for agri-biodiesel that exceeds 60 million gallons per year.<sup>75</sup> The credit is capped at 15 million gallons per year.<sup>76</sup> For the purpose of these limitations, all members of the same controlled group of corporations and all persons under common control are treated as one person.<sup>77</sup>

#### II. STATE TAX

Like federal tax law, state tax law is highly complex. There are limited provisions regarding biodiesel production, and most are not biodiesel specific. The following subsections outline potential tax liability and incentives found in state law.

#### A) TAX LIABILITY

Biodiesel may be subject to state tax liability under the biodiesel mixtures provision.<sup>78</sup> As established in 23 V.S.A. §3002(4), diesel "fuel" is defined to include any blend of undyed diesel fuel and other fuel used or suitable for use for the generation of power to propel motor vehicles. The Biodiesel Mixtures provision imposes a tax of \$0.28, a fee of \$0.01, and a \$0.03 motor fuel

<sup>&</sup>lt;sup>71</sup> 26 U.S.C. §40A(b)(2)(A).

 $<sup>^{72}</sup>_{72}$  26 U.S.C. §40A(b)(2)(B).

<sup>&</sup>lt;sup>73</sup> 26 U.S.C. §40A(b)(4)(A).

<sup>&</sup>lt;sup>74</sup> 26 U.S.C. §40A(b)(4)(B).

<sup>&</sup>lt;sup>75</sup> 26 U.S.C. §40A(e)(1).

<sup>&</sup>lt;sup>76</sup> 26 U.S.C. §40A(b)(4)(C).

 $<sup>^{77}</sup>_{78}$  26 U.S.C. §40A(e)(2).

<sup>&</sup>lt;sup>78</sup> 23 V.S.A. §3003.

transportation infrastructure assessment on each gallon of diesel fuel sold or delivered by a distributor, or used by a user.<sup>79</sup>

Off-highway motor vehicles are not include in the tax, because vehicles not using fuel on the public highway, and registered, or required to be registered, for operation on the public highway, do not meet the definition of "motor vehicle."<sup>80</sup> Also, the definitions of both "use" and "user" are limited to the consumption or use of fuel to propel a motor vehicle upon the highways of the state.<sup>81-82</sup> Additionally, a user is exempt from the tax and motor fuel transportation infrastructure assessment for certain uses, including uses for agricultural purposes not conducted on the highways of the State; uses by any vehicle off highways of the State; and uses by any vehicle registered as a farm truck under 23 V.S.A. §367(f).<sup>83</sup>

#### B) TAX INCENTIVES

While there are no biodiesel specific tax incentives in Vermont,<sup>84</sup> on-farm biodiesel producers may be eligible for tax credits falling under the Economic Advancement Tax Incentives.<sup>85</sup> The first is the payroll income tax credit under §5930c, where annual sales in the tax year can get credit related to a specific percentage of increased cost of sales and wages.<sup>86</sup> The second credit under the Economic Advancement Tax Incentives is the research and development income tax credit under §5930d, which provides a 10 percent credit for qualified research

<sup>85</sup> 32 V.S.A. Chapter 151.

<sup>&</sup>lt;sup>79</sup> 23 V.S.A. §3003(a).

<sup>&</sup>lt;sup>80</sup> 23 V.S.A. §3002(5).

<sup>&</sup>lt;sup>81</sup> 23 V.S.A. §§3002(9) and § 3002(10).

<sup>&</sup>lt;sup>82</sup> Note that other jurisdictions, e.g. Oklahoma, define "diesel" to include neat biodiesel and do not distinguish between on-road and off-road uses. See, Oklahoma Cooperative Extension Service, *On-Farm Biodiesel Production Regulatory Guide*. Available at http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-7070/AGEC-1020web.pdf. In 2013 Vermont completed an Alternative Fuel Vehicle User Fee Study analyzing and reporting on options for user fees and fee collection mechanisms for alternative fuel vehicles using fuels that are not currently taxed. Because of a concern about decreasing tax revenues from motor fuels, it is possible that Vermont will impose a tax on currently untaxed fuels such as biodiesel in the near future. *See*, Section 40 Committee on Transportation Funding, *Vermont Transportation Funding Options Final Report* (Jan 8 2013). Available at

<sup>\</sup>http://vtransplanning.vermont.gov/sites/aot\_policy/files/documents/planning/Sec%2040%20Funding%20Study%2 0-%20Final%20Legislative%20Report%20Jan%208%202013.pdf

<sup>&</sup>lt;sup>83</sup> 23 V.S.A. § 3003(d)(1). The exemption under this section does not apply to the fee of \$0.01 set out in 23 V.S.A. §3003(a) and established pursuant to the provisions of 10 V.S.A.§1942.

<sup>&</sup>lt;sup>84</sup> See, U.S. Department of Energy Alternative Fuels Data Center, *Vermont Laws and Incentives for Biodiesel*. Available at http://www.afdc.energy.gov/fuels/laws/BIOD/VT. See also, Simon Workman and Jaime Rall, National Conference of State Legislatures, *Taxation of Alternative Fuels*, (August 2012). Available at http://www.ncsl.org/research/transportation/taxation-of-alternative-fuels.aspx.

<sup>&</sup>lt;sup>86</sup> For example, annual sales of less than \$10 million in that tax year get credit equal to 10 percent of increased cost of sales and wages. Annual sales of \$10 to \$20 million in that tax year get credit equal to 6-9 percent of increased costs of sales and wages. And annual sales of more than \$20 million in that tax year get 5 percent of increased cost of sales and wages.

development expenditures. In addition, there is the export tax credit under §5930f - based on exports out of Vermont and which the formula of credit is related to the type of entity – and the investment tax credit under §5930g – which provides a percentage of total investment within Vermont where investment exceeds \$150,000.<sup>87</sup> Finally, there is the high-tech credit growth incentives under §5930k(c), which is a credit up to 6 percent "determined under the cost-benefit analysis of the applicant." These tax credits, however, are set to expire by January, 2017 and are only applicable to Vermont businesses that qualify as a high-tech business involved *exclusively* in the design, development, and manufacture of (among other things) energy technology involving fuel sources other than fossil fuels.<sup>88</sup> They are not applicable to farmers that are only producing biodiesel.

# TAX LIABILITY AND BIODIESEL FOR HEATING

All the potential applicable taxes to biodiesel production and sale analyzed in this report are related to transportation, strictly linked to the definition of "motor fuel." For heating fuels, however, Vermont establishes the gross receipts tax. This tax - 0.5% on the retail sale price - is applicable to fuels such as heating oil and dyed diesel delivered to a residence or business, and it must be paid by the seller.<sup>1</sup> While the heating oils enumerated in this section seem related to fossil fuels, it is unclear at this point if the sale of biodiesel for heating is covered by the gross receipts tax.

<sup>1</sup> 10 V.S.A. §2503

# C) USE VALUE APPRAISAL PROGRAM

One key component of Vermont's tax legislation is the Use Value Appraisal Program, commonly known as the Current Use Program. This program allows agricultural land, forest land, and farm buildings to be taxed at their agricultural or forest value, rather than at their potential development value. Farm buildings that qualify for the Current Use program have zero property taxes. A biodiesel facility may or may not be eligible as a "farm building" under this program.

<sup>&</sup>lt;sup>87</sup> For example, a 9 percent credit will be given if the entity has between 150 and 174 full-time employees, 8 percent if the entity has between 175 and 199 full-time employees, 7 percent if the entity has between 200 and 224 full-time employees, 6 percent if entity has between 225 and 250 full-time employees, and 5 percent if the entity has more than 250 full-time employees.

<sup>&</sup>lt;sup>88</sup> 32 V.S.A. §5930k.

As defined in 32 V.S.A. §3752(14), "farm building" means "all farm buildings and other farm improvements which are actively used by a farmer as part of a farming operation, are owned by a farmer or leased to a farmer under a written lease for a term of three years or more, and are situated on land that is enrolled in a use value appraisal program or on a house-site adjoining enrolled land." If the building is a facility processing farm crops, *at least 75 percent of these crops must have been produced on the farm in* order for the facility to qualify as a "farm building." Additionally, if the building is a facility processing farm crops, only the first \$100,000 of the value would be exempt from local property taxes.

In addition, to knowing if the facility qualifies as a "farm building" the facility needs to be owned by or leased to a "farmer." Farmers are defined as persons who:

- earn more than half of their gross income from the business of farming, or produce farm crops that are processed in a farm facility situated on land enrolled by the farmer in a use value appraisal program or on a housesite adjoining the enrolled land;
- the gross income from the sale of the processed farm products, when added to other gross income from the business of farming, equals at least one-half of the farmer's annual income; and
- produces on the farm a minimum of 75 percent of the farm crops processed in the farm facility.<sup>89</sup>

The criteria for determining whether a biodiesel facility counts as a farm building are very similar to the criteria for determining whether biodiesel sales count as farming income. If your biodiesel facility doesn't count as a "farm building," then you probably can't count the income from biodiesel sales as income from the business of farming.<sup>90</sup> Consequently, if a person operating a farm does not qualify as a farmer, then none of the buildings, such as barns and sheds, will be eligible for current use as "farm buildings." For a better understanding of facility and farmer qualifications under the Current Use Program please see flowcharts in Appendix C.

<sup>&</sup>lt;sup>89</sup> 32 V.S.A. §3752(7).

<sup>&</sup>lt;sup>90</sup> Interesting to notice that methane digesters have a different status in the Current Use Program than biodiesel facilities. As established in the Vermont Department of Taxes' technical bulletin on the eligibility of methane digesters as farm buildings in the current use program, only 50% of the manure used in a farm methane digester needs to come from that farm, in order for the digester to qualify as a "farm building" under the program. A second difference is that, for the purposes of §3752(7), income from methane digesters never counts as income from the business of farming when determining whether a person qualifies as a "farmer."

#### **HOW IT WORKS**

To give an example, Farmer A receives 40% of his gross income from biodiesel sales, 40% from non-biodiesel farm sales, and 20% from non-farm sources. 80% of the oilseeds that go into his facility come from his own farm, the facility qualifies as a "farm building," and income from biodiesel sales counts as farming income. If one year his oilseed crop doesn't do well, and only 60% of the oilseeds that go into his facility that year come from his own farm, then the facility will no longer qualify as a "farm building" under current use, and biodiesel sales will no longer count as farm income. At that point, the farmer will lose his qualification as a "farmer," since less than half of his income comes from farming.

On the other hand, Farmer B receives 25% of her gross income from biodiesel sales, 65% from non-biodiesel farm sales, and 10% from non-farm sources. 80% of the oilseeds that go into her facility come from her own farm, the facility qualifies as a "farm building," and income from biodiesel sales counts as farming income. If in one year only 60% of the oilseeds that go into her facility come from her own farm, then the facility will no longer qualify as a "farm building" under current use, and biodiesel sales will no longer count as farm income. But the farmer will not lose her qualification as a "farmer," since more than 50% of her income comes from non-biodiesel farm sales.

#### **CHAPTER 2. SITE REGULATIONS**

There a number of site regulations in Vermont. The most relevant for biodiesel production facilities are the Vermont's Land Use Law, local zoning rules, fire and building safety codes.

#### I. VERMONT'S LAND-USE LAW (ACT 250)

Any development or subdivision in Vermont requires an Act 250 permit,<sup>91</sup> but farming is often exempted from these permitting requirements.<sup>92</sup> For the purpose of Act 250, farming is defined to include "(E) the on-site storage, preparation and sale of agricultural products principally produced on the farm; and (F) the on-site storage, preparation, production, and sale of fuel or power from agricultural products or wastes principally produced on the farm."<sup>93</sup> The term "principally produced" appears in both subsections (E) and (F). "Principally produced" already existed under subsection (E), but it was only introduced into subsection (F) in 2008.<sup>94</sup>

As a result, some state's documents still contains the pre-2008 text of the law.<sup>95</sup> This is particularly true for the Act 250 Rules ("Rules"), which define "principally produced" for subsection (E), but not for subsection (F).<sup>96</sup> The definition of "principally produced" under subsection (22)(E) is interpreted by the Rules to mean "more than 50% (either by volume or weight) of the ingredients or materials contributing to a final agricultural product ... is grown or produced on the farm."<sup>97</sup> In a phone contact with the Natural Resources Board (NRB)'s General Counsel, she shared the understanding that "principally produced" interpretation of more than 50% should apply equally to (22)(E) and (22)(F).<sup>98</sup>

More than one Act 250 case has turned on the definition of "principally produced." In 2013, a jurisdictional opinion was issued regarding whether a proposed whiskey distillery required an

http://agriculture.vermont.gov/protecting\_lands\_waters/agricultural\_water\_quality/aap

<sup>&</sup>lt;sup>91</sup> 10 V.S.A. §6081(a).

<sup>&</sup>lt;sup>92</sup> 10 V.S.A. §6001(3)(D)(i).

<sup>&</sup>lt;sup>93</sup> 10 V.S.A. §6001 (22).

<sup>&</sup>lt;sup>94</sup> Before then, subsection (F) read, "the on-site production of fuel or power from agricultural products or wastes produced on the farm."

<sup>&</sup>lt;sup>95</sup> For instance, the Vermont Accepted Agricultural Practices have not been updated since 2006, and include the old text of subsection (22)(F). The AAPs are available at the Agency of Agriculture's website at

<sup>&</sup>lt;sup>96</sup> Natural Resources Board - District Environmental Commissions, *Act 250 Rules* (2013). Available at http://www.nrb.state.vt.us/lup/publications/rules/2013rules.pdf

<sup>&</sup>lt;sup>97</sup> The Act 250 Rules also include a definition of "principally produced" for subsection 6001 (3)(D)(vii)(II), the composting section. This definition is substantially similar to the definition for subsection (22)(E), and also includes the provision that "more than 50%... is grown or produced on the farm."

<sup>&</sup>lt;sup>98</sup> Telephone conversation held on October 23<sup>rd</sup>, 2014.

Act 250 permit.<sup>99</sup> The would-be distillers argued that because they would grow most, or all, of the grain to be used in producing the whiskey on the farm, the distillery would qualify under §6001(22)(E) as farming and would be exempt from Act 250. But the district coordinator held that the primary ingredient in whiskey is water, not grain, and water is not an agricultural product, so less than 50% of the ingredients in the final product were agricultural products produced on the farm, and the project was not exempt from Act 250.

The 2006 Vermont Supreme Court case, *In re Ochs*, <sup>100</sup> also turned on the definition of "principally produced" in subsection (22)(E). An apple farm was found not to require an Act 250 permit, despite having a robust packing and processing facility. Neighbors argued that much of the farm land was leased, which meant that the apples were not "principally produced on the farm." Neighbors complained about noise, fumes, and traffic, but the Court held that leased land, that is entirely managed by a farmer, counts as part of that farmer's farm, and that the apples packed at the facility were principally produced on that farm.<sup>101</sup>

While both cases referred to subsection (22)(E), and not the subsection pertinent to biodiesel production, these cases shows how principally produced have been interpreted by Courts and how it is likely to be interpreted under (22)(F).

A more complicated issue concerns the "principally produced" terminology and alternative business models for the production of biodiesel. The first challenging model refers to the cooperative business model in which a group of farmers cooperatively own the machinery to produce biodiesel. Under this model, the biodiesel manufacturing equipment is located in one farm, but farmers-owners bring their crops there for processing. A second challenging model is the processing fee model, in which one farmer owns the facility, and other farmers bring their crops to that farm and pay the owner a processing fee to produce biodiesel.

<sup>&</sup>lt;sup>99</sup> Natural Resources Board – District 6/9 Environmental Commission, Jurisdictional Opinion #9-070 (2013). Available at http://www.nrb.state.vt.us/lup/jo/2013/9-070.pdf. <sup>100</sup> In re Ochs (2006 VT 122, Docket n. 2005-385). Available at

http://info.libraries.vermont.gov/supct/current/eo2005-385.txt

<sup>&</sup>lt;sup>101</sup> Another situation that illustrates how "principally produced" might be applied to on-farm biofuel production is on-farm production of methane for electricity generation. On-farm generation with methane is exempt from Act 250 because it is regulated by the PSB under section 248. However, PSB order #7533 incorporates the 51% threshold into the definition of on-farm methane generation, based on a statement from the Agency of Agriculture that "[a]ny system that is located on a farm and is digesting agricultural products, byproducts and wastes principally from the farm is considered a farm system by the [Agency of Agriculture] and should be considered agricultural operations for the purpose of this program. Principally is considered to be 51% of the feedstock that needs to come from the farm."

Regarding the cooperative model, a 2010 jurisdictional opinion provides some guidance.<sup>102</sup> Deep Root Organic Cooperative, a farmers' marketing cooperative, wanted to build an office and distribution building. The opinion held that the buildings were not exempted from Act 250 under subsection (22)(E) because

Deep Root Organic's 18 member staff serves its member farmers by taking in produce from all of the farms, organizing it, and distributing it to markets. Accordingly, the proposed construction of the office/distribution center does not meet the farming exemption.<sup>103</sup>

This opinion, again, involves subsection (22)(E), not (22)(F). However, the situation seems similar to the case of farmers cooperatively owning biodiesel production equipment that is located on one farm. If the same logic applies to biodiesel production facilities, cooperatively owned biodiesel production equipment would not qualify for the farming exemption and would meaning on A at 250 permit.

require an Act 250 permit.

Regarding the processing fee model, and based on the previous interpretations, it is likely that the facility will not qualify as "farming" for the Act 250 exemption unless more than 50% of the ingredients are produced on the farm where the facility is located.<sup>104</sup>

#### ACT 250 SCOPE

It is important to highlight that even if Act 250 permit is triggered, only the specific activity that does not qualify for the exemption requires a permit, as stated at 10 V.S.A. 6001(3)(E): "When development is proposed to occur on a parcel or tract of land that is devoted to farming activity as defined in subdivision 6001(22) of this section, only those portions of the parcel or the tract that support the development shall be subject to regulation under this chapter." In other words, even if a farmer builds a biodiesel facility that is subject to Act 250, the rest of the farm will remain exempt from Act 250 assuming that it was previously exempted.

 <sup>&</sup>lt;sup>102</sup> Natural Resources Board – District 5 Environmental Commission, *Jurisdictional Opinion #5-09* (2010).
 Available at http://www.nrb.state.vt.us/lup/jo/2010/5-09.pdf.
 <sup>103</sup> Id

<sup>&</sup>lt;sup>104</sup> The Natural Resources Board's General Counsel confirmed via telephone that she shares the understanding that cooperative model and the use of more than 50% of crops from outside of the farm under the processing fee model are likely to not qualify for the farming exemption provision under Act 250.

#### **II. LOCAL ZONING**

On-farm biodiesel facilities do not need to follow local zoning rules, and thus are exempted from municipal permitting, if the following criteria are met: (i) more than 50 percent of the inputs to the facility are produced on the farm;<sup>105</sup> and (ii) at least one of the four criteria in the definition of "Farm Structure" in Section 2.06 of the Accepted Agricultural Practices ("AAPs") adopted by the Vermont Agency of Agriculture.<sup>106</sup> The farm structure criteria set out in Section 2.06 include:

- a structure that is used in connection with the sale of \$1,000 or more of agricultural products in a normal year;
- a structure that is used by a farmer filing with the Internal Revenue Service a 1040 (F) income tax statement in at least one of the past two years; or
- a structure that is on a farm with a business and farm management plan approved by the Secretary.<sup>107</sup>

However, to be formally exempted from local zoning, the interested farmers are encouraged to inquire with the Agency of Agriculture and obtain a written opinion regarding the exemption of a specific project. In addition, farmers must be aware that even if the structure qualifies for an exemption, there are limitations to the facility such as the impediment that farms buildings be constructed within a road right-of-way without permission from the town. For more information about the limitations, please see Agency of Agriculture's "Farming and Local Zoning" guidance.<sup>108</sup>

<sup>&</sup>lt;sup>105</sup> Because of the reference to 10 V.S.A. §6001 (22)(F). The AAPs, in Section 2.05, contain a definition of "farming" that is identical to the pre-2008 definition of "farming" in 10 VSA §6001(22). Since the AAPs were last updated in 2006, it seems reasonable to assume that they are intended to be identical to the statute, and that "principally produced" is the appropriate standard. This interpretation was also ratified by conversation held with the Chief Policy Enforcement Officer at Agency of Agriculture, on November 19<sup>th</sup>, 2014. According to her understand, principally produced is interpreted to mean that 51 percent of the inputs to the facility, by weight or volume, must be agricultural products or wastes produced on the farm where the facility is located.

http://agriculture.vermont.gov/sites/ag/files/ACCEPTED%20AGRICULTURAL%20PRACTICE%20REGULATIONS.pdf

<sup>&</sup>lt;sup>107</sup> While AAPs were designed to reduce non-point source water pollution, several programs and laws in Vermont have used the AAPs as a convenient shorthand for describing what counts as farm, as is the case of 24 V.S.A. §4413(d) that exempts farming from local zoning.

<sup>&</sup>lt;sup>108</sup> The Agency of Agriculture also defines "farm structure" under the guidance document *Farming and Local Zoning*, available at

#### **III. FIRE & BUILDING CODES**

To protect the public from fire and explosion hazards, the State of Vermont has adopted nationally recognized safety standards that are codified in the Vermont's Fire and Building Safety Code ("Code"). The Code is closely based on national standards, including standards promulgated by the National Fire Protection Association ("NFPA") and the International Building Code ("IBC"). The Code incorporates four national codes,<sup>109</sup> plus amendments, and other changes Vermont has made to the standards.

The Code is only applicable to buildings that are considered public building under the regulations, defined as "a building which two or more persons is employed, or occasionally enter as part of their employment."<sup>110</sup> Farm buildings on a working farm are not included in the definition of a public building, and thus exempted from the Code, if the farm has (i) fewer than the equivalent of 10 full-time employees who are not family members and who do not work more than 26 weeks a year; and (ii) whose owner is actively engaged in farming.<sup>111</sup> In the case of farms that are owned by a partnership or a corporation, one of the partners or principals must be actively engaged in farming.<sup>112</sup> In similar fashion, if the farm is leased, the lessee must be actively engaged in farming to meet the second requirement of the public building exemption.<sup>113</sup>

The list of activities that are considered farming activities under the Code includes most of the activities under Act 250's farming definition, such as "on-site storage, preparation, and sale of agricultural products principally produced on the farm."<sup>114</sup> However, the list does not include fuel production. Ordinarily, the production of biodiesel could fit the previous definition, but the fact that fuel production is not explicitly mentioned in this definition, while it is explicitly mentioned in other definitions of farming in Vermont statute, can be a sign that the omission was deliberate due to the fire and explosion hazard potential of biodiesel production. Thus, at this point it is unclear if biodiesel facilities are exempt from the Code or not.

http://agriculture.vermont.gov/sites/ag/files/pdf/water\_quality/Farming%20and%20Local%20Zoning%2010-2011.pdf

<sup>&</sup>lt;sup>109</sup> The four national codes are: Life Safety Code (NFPA 101 – 2012); Fire Code (NFPA 1 – 2012); International Building Code (IBC – 2012); and National Board of Inspection Code (NBIC – 2004).

<sup>&</sup>lt;sup>110</sup> 20 V.S.A. §2730 (a)(1)(B).

<sup>&</sup>lt;sup>111</sup> 20 V.S.A. §2730 (b)(3).

<sup>&</sup>lt;sup>112</sup> 20 V.S.A. §2730(b)(3)(B).

<sup>&</sup>lt;sup>113</sup> 20 V.S.A. §2730(b)(3)(C).

<sup>&</sup>lt;sup>114</sup> 20 V.S.A. §2730(b)(3)(C).

# **CHAPTER 3. OCCUPATIONAL SAFETY AND HEALTH**

The Occupational Safety and Health Administration ("OSHA") is the federal agency responsible for implementing the Occupational Safety and Health Act ("OSH Act").<sup>115</sup> OSH Act "requires employers to comply with safety and health standards promulgated by OSHA or by a state with an OSHA-approved state plan."<sup>116</sup> OSH Act has a General Duty Clause that "requires employers to provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm."<sup>117</sup> If there is no OSHA standard for a particular hazard, the General Duty Clause helps to protect employees from workplace hazards to ensure that employers account for the safety of their workers.<sup>118</sup> With the exception of the General Duty Clause that process more than 10,000 pounds of flammable liquids and flammable mixtures will also trigger a number of OSHA regulations.

Biodiesel is flammable and combustible and the manufacturing process involves dangerous chemical reactions.<sup>119</sup> OSHA describes biodiesel as a "combustible liquid which burns readily when heated. However, blending with petroleum based diesel fuel or contamination by materials used in manufacturing can increase its flammability."<sup>120</sup> The production process for biodiesel includes "reacting organic materials such as vegetable oils with an alcohol, typically methanol, using a strong base, such as a caustic, as a catalyst. Glycerin, a combustible liquid, is produced as a by-product. The caustic is neutralized with acid, typically sulfuric acid."<sup>121</sup> In addition to these chemicals, ethanol, potassium methylate, and sodium methylate are typically used in the biodiesel production process.<sup>122</sup> All of these chemicals used in, or produced as a by-product of, the biodiesel production process require a level of care that manufacturers must be aware of to protect workers.<sup>123</sup>

<sup>&</sup>lt;sup>115</sup> 29 U.S.C. §§651 *et seq*.

<sup>&</sup>lt;sup>116</sup> U.S. Department of Labor, Occupational Safety & Health Administration. *Green Job Hazards*. Available at https://www.osha.gov/dep/greenjobs/index.html

 $<sup>^{117}</sup>$ *Id*.

<sup>&</sup>lt;sup>118</sup> 29 U.S.C. §§651.

<sup>&</sup>lt;sup>119</sup> U.S. Department of Labor, Occupational Safety & Health Administration. *Green Job Hazards: Biofuels*. Available at https://www.osha.gov/dep/greenjobs/biofuels.html.

<sup>&</sup>lt;sup>120</sup> Id. <sup>121</sup> Id.

 $<sup>^{122}</sup> Id.$ 

 $<sup>^{123}</sup>$  *Id*.
OSHA discusses three potential hazards that are specific to biodiesel production and handling: "Fire and Explosion Hazards; Chemical Reactivity Hazards; and Toxicity Hazards."<sup>124</sup> While OSHA discusses these three hazards in more depth, OSHA cautions that biodiesel manufacturers should not overlook general hazards that apply to almost all industries such as walking and working surface hazards, electrical hazards, and other general hazards.<sup>125</sup>

It is essential that biodiesel producers account for potential fire and explosion hazards because of the dangerous nature of the production process. Process Safety Management of Highly Hazardous Chemicals (PSM) applies to biodiesel facilities that process more than 10,000 pounds of flammable liquids and flammable mixtures like those mentioned above.<sup>126</sup> If these PSM regulations are triggered by amount of hazardous chemicals at the biodiesel manufacturing plant, employers will need to conduct a process hazard analysis - which mandates employers to produce written operating procedures; employee training; pre-startup safety reviews; evaluation of mechanical integrity of critical equipment; and written procedures for managing change.<sup>127</sup> Biodiesel producers must be aware that any vessels in the production process that stores or transports a hazardous chemical and is in any way a group of vessels that is interconnected or separate from the production process must be accounted for as part of this process because of the potential for a hazardous release.<sup>128</sup>

In addition to the PSM regulations, biodiesel manufacturing facilities will likely need to follow the regulations regarding Flammable and Combustible Liquids.<sup>129</sup> which specify the requirements for storage tanks that hold these liquids, piping construction, and spacing considerations within the facility.<sup>130</sup>

Other regulations that deal with potential biodiesel production facility hazards include:

- Hazard Communication:<sup>131</sup> •
- Respiratory Protection;<sup>132</sup>

<sup>&</sup>lt;sup>124</sup> Id.

<sup>&</sup>lt;sup>125</sup> *Id*.

<sup>126 29</sup> CFR §1910.119.

<sup>&</sup>lt;sup>127</sup> U.S. Department of Labor. Occupational Safety and Health Administration, Process Safety Management OSHA 3132 (2000). Available at https://www.osha.gov/Publications/osha3132.pdf

 $<sup>^{128}</sup>$  *Id*.

<sup>129 29</sup> C.F.R. §1910.106.

<sup>&</sup>lt;sup>130</sup> U.S. Department of Labor, Occupational Safety & Health Administration. Green Job Hazards: Biofuels. Available at https://www.osha.gov/dep/greenjobs/biofuels.html. <sup>131</sup> 29 C.F.R. §1910.1200.

- Personal Protective Equipment;<sup>133</sup>
- Welding, Cutting, and Brazing;<sup>134</sup>
- Permit-Required Confined Spaces;<sup>135</sup>
- The control of hazardous energy (lockout/tagout);<sup>136</sup> and
- Hazardous (classified) locations.<sup>137</sup>

Chemical Reactivity Hazards are another group of hazards that manufacturers of biodiesel must follow to provide safe working areas for employees.<sup>138</sup> The biodiesel production process involves potentially dangerous chemical reactions that need to be controlled.<sup>139</sup> OSHA warns that "dangerous chemical reaction can lead to the rupture of equipment and piping, explosions, fires, and exposures to hazardous chemicals."<sup>140</sup> OSHA describes that there are "engineering and administrative controls" that help keep these processes safe including: "controlling the rate and order of chemical addition, providing robust cooling, segregating incompatible materials to prevent inadvertent mixing, and the use of detailed operating procedures."<sup>141</sup> The OSHA regulations that deal specifically with Chemical Reactivity Hazards are: Process Safety Management of Highly Hazardous Chemicals;<sup>142</sup> Hazard Communication;<sup>143</sup> and the control of hazardous energy by accounting for how and when machinery is shut down in the plant.<sup>144</sup>

Similar to the requirements under Chemical Reactivity Hazards regulations, biodiesel producers also need to account for toxicity hazards. The Material Safety Data Sheet (the "MSDS") is one way OSHA attempts to account for the harmful biofuels and chemicals used in the biodiesel manufacturing process. MSDS documents toxic exposure hazards of the various chemicals used in the biodiesel manufacturing process, which include: methanol, caustic, sulfuric

<sup>&</sup>lt;sup>132</sup> 29 C.F.R. §1910.134.

<sup>&</sup>lt;sup>133</sup> 29 C.F.R. §1910 Subpart I.

<sup>&</sup>lt;sup>134</sup> 29 C.F.R. §1910 Subpart Q.

<sup>&</sup>lt;sup>135</sup> 29 C.F.R. §1910.146.

<sup>&</sup>lt;sup>136</sup> 29 C.F.R. §1910.147.

<sup>&</sup>lt;sup>137</sup> 29 C.F.R. §1910.307.

<sup>&</sup>lt;sup>138</sup> U.S. Department of Labor, Occupational Safety & Health Administration. *Green Job Hazards: Biofuels-Chemical Reactivity Hazards*. Available at https://www.osha.gov/dep/greenjobs/bio\_chemical.html.
<sup>139</sup> Id.

 $<sup>^{140}</sup>$  Id.

 $<sup>^{141}</sup>$  *Id*.

<sup>&</sup>lt;sup>142</sup> 29 C.F.R. §1910.119

<sup>&</sup>lt;sup>143</sup> 29 C.F.R. §1910.1200

<sup>&</sup>lt;sup>144</sup> 29 C.F.R. §1919.147.

acid, and biodiesel.<sup>145</sup> Biodiesel producers need to access these MSDSs for all the hazardous and toxic chemicals they use in their production process to prevent possible releases, to adequately plan ventilation and drainage systems, and ensure the appropriate personal protective equipment is onsite to protect workers from possible exposures.<sup>146</sup> In addition to the regulations listed above, biodiesel producers should also review the Respiratory Protection rules, which discusses the respiratory equipment that employers need to provide employees if a facility has ventilation issues or the chemicals being handled produce toxic fumes that can be inhaled.<sup>147</sup>

What must a biodiesel plant do to comply with these OSHA regulations? There must be a PSM plan in place at facilities that house more than 10,000 pounds of hazardous materials. Employers must have process safety management information, conduct safety reviews, analyze potential hazards, understand and study the mechanical integrity of equipment, and be ready to manage a release or change in production if one were to occur. Operating procedures, fire prevention measures, equipment training, and investigation and reporting of accidents are all also recommended, if not required, for biodiesel producers.<sup>148</sup> It is important to understand that OSHA is primarily concerned with "identifying, evaluating and preventing disasters in the workplace."<sup>149</sup> OSHA has the authority to inspect biodiesel facilities at any time and fine producers if their PSM is not in compliance with OSHA regulations. While OSHA does not go to every biodiesel production facility looking for noncompliance issues, if a major disaster or release were to occur at a biodiesel facility in Vermont it is likely that OSHA officials will be there to inspect the facility and make sure all of the PSM documentation is in order. If this documentation is not in order, OSHA has the authority to issue significant fines.<sup>150</sup>

 <sup>&</sup>lt;sup>145</sup> U.S. Department of Labor, Occupational Safety & Health Administration. *Green Job Hazards: Biofuels- Toxicity Hazards*. Available at https://www.osha.gov/dep/greenjobs/bio\_toxicity.html.
 <sup>146</sup> Id.

<sup>147 29</sup> C.F.R. §1910.134.

<sup>&</sup>lt;sup>148</sup> See Biodiesel Process Safety Management at http://www.biodieselmagazine.com/articles/7663/biodiesel-process-safety-management

<sup>&</sup>lt;sup>149</sup> *Id*.

<sup>&</sup>lt;sup>150</sup> *Id*.

# **CHAPTER 4. REGISTRATIONS**

There are five registration requirements that biodiesel producers may be required to meet. These registrations are issued under the authority of the IRS, the Renewable Fuel Standards ("RFS") program, and federal and state environmental agencies.

## I. IRS REGISTRATION

Under IRC § 4101, every person liable for the tax imposed on sections 4081 and 4041, producing or importing biodiesel or producing second generation of biodiesel must register with the Secretary of Treasury through IRS form 637, in accordance with the Internal Revenue Regulations.<sup>151</sup> The Regulations are unclear with respect to how they apply to biodiesel producers. The 2008 Proposed Regulations include new provisions expressly addressing biodiesel producers and registration under IRC §4101.<sup>152</sup>

## **II. RENEWABLE FUEL STANDARD**

The RFS is a national program which mandates that an increased percentage of renewable fuels be blended into U.S. motor vehicle fuel supply.<sup>153</sup> Created in 2005 by the Energy Policy Act ("EPAct"), and expanded in 2007 by the Energy Independence and Security Act ("EISA"), the program requires an increased amount of gallons of renewable fuel to be blended into transportation fuels each year by fuel refiners.<sup>154</sup> For 2014, the mandate was 18.15 billion gallons of renewable fuel. The volume requirements for 2015 are expected to be proposed by June 1 of this year,<sup>155</sup> and in 2022 the mandate is to be up to 36 billion gallons of renewable fuel.<sup>156</sup> After the volume requirement is establish, the Environmental Protection Agency ("EPA") converts, each year,

<sup>&</sup>lt;sup>151</sup> 26 U.S.C. §4101(a)(1). For Form 637, see http://www.irs.gov/pub/irs-pdf/f637.pdf. *See also*, IRS Publication 510, *Excise Taxes*. Available at http://www.irs.gov/pub/irs-pdf/p510.pdf.

<sup>&</sup>lt;sup>152</sup> See 2008 Proposed Regulation, Par. 19, which inserts express reference to biodiesel at § 48.4041-1 of the Regulations. 73 Fed. Reg. 43890 (2008).

<sup>&</sup>lt;sup>153</sup> 42 U.S.C. Chapter 85, Subchapter II (Emission Standards for Moving Sources) §7521.

<sup>&</sup>lt;sup>154</sup> 40 C.F.R. §80.1406 (a)(1).

<sup>&</sup>lt;sup>155</sup> EPA, Renewable Fuel: Regulations & Standards. Available at

http://www.epa.gov/otaq/fuels/renewablefuels/regulations.htm

 $<sup>^{156}</sup>$  42 U.S.C. § 7545 (o)(2)(B)(i)(I). However, EPA has repeatedly reduced the mandate based on EPA's updated production projections in order to put the program in a manageable trajectory. For 2014, EPA is proposing that the renewable fuel requirement be reduced to 15.21 billion gallons of renewable fuel, and reduce the statutory volume of advanced biofuel to 2.2 billion gallons. Available at

http://www.epa.gov/otaq/fuels/renewablefuels/documents/420f13048.pdf.

[T] he statutorily mandated RFS into a percentage-based requirement based on annual fuel production; each regulated entity will then be responsible for including a specific volume of renewable fuel – based on the annual percentage requirement – in the gasoline it refines, blends, or imports.<sup>157</sup>

To monitor the compliance of the Renewable Volume Obligations, EPA established a trading program for renewable fuel credits through a system of Renewable Identification Numbers ("RINs"). The RINs procedure is briefly explained below:

Renewable fuel importers or producers assign to each batch of renewable fuel a RIN, which indicates the volume and type of fuel produced. As batches of renewable fuels are sold, the RIN is transferred along with the fuel. RINs may also be traded. At the end of each year, the regulated entities must have acquired an appropriate number of RINs, demonstrating that they in fact complied with their RFS obligations.<sup>158</sup>

Under the RFS regulations, renewable fuels must be produced from renewable biomass, replace or reduce the quantity of fossil fuel present in a transportation fuel or heating oil, and must have lifecycle greenhouse gas emissions that are at least 20 percent less than baseline lifecycle greenhouse gas emissions.<sup>159</sup> Qualified renewable fuels under RFS includes cellulosic,<sup>160</sup> biomass-based diesel,<sup>161</sup> and advanced biofuel.<sup>162</sup> Renewable fuel producers can participate in two ways. The first is through mandatory participation for producers that generate 10,000 gallons or more of renewable fuel per year.<sup>163</sup> The second way is through voluntarily

 <sup>&</sup>lt;sup>157</sup> Chris Wold, David Hunter, and Melissa Powers, *Climate Change and The Law* (Lexis Nexis, 2009).
 <sup>158</sup> Id

<sup>&</sup>lt;sup>159</sup> 40 C.F.R. §80.1401.

<sup>&</sup>lt;sup>160</sup> Cellulosic biofuel is defined as "renewable fuel from any cellulose, hemicellulose, or lignin that is derived from renewable biomass and that has lifecycle greenhouse gas emissions that are at least 60% less than the baseline lifecycle greenhouse gas emissions (42 U.S.C. § 7545 (o)(1)(E)). Renewable biomass, on the other hand, is defined to include planted crops and crop residue harvested from agricultural cleared or cultivated at any time prior to December 19, 2007, that is either actively managed or fallow, and nonforested; and algae, among others (42 U.S.C. §7545 (o)(1)(I)).

<sup>&</sup>lt;sup>161</sup> Biomass-based diesel is a diesel fuel substitute produced from nonpetroleum renewable resources that meets EPA's registration requirements for fuel and fuel additives, is derived from animal waste, municipal solid waste, sludges, and oils derived from wastewater and treatment of wastewater, and has lifecycle greenhouse gas emissions at least 50% less than baseline lifecycle greenhouse gas emissions (42 U.S.C. §7545 (o)(1)(D)).

 $<sup>^{162}</sup>$  Advanced biofuel is a renewable fuel that has a lifecycle greenhouse gas emissions at least 50% less than baseline lifecycle greenhouse gas emissions, including biomass-based diesel, ethanol from sources other than corn starch, and other fuels derived from cellulosic biomass (42 U.S.C. §7545 (o)(1)(B)). Renewable fuel, on its term, is defined to include fuel produced from renewable biomass that is use to replace or reduce the quantity of fossil fuel present in a transportation fuel, including non-road vehicles and engines (42 U.S.C. §7545 (o)(1)(J)).

 $<sup>^{163}</sup>$  40 C.F.R. §80.1426 (c)(2). New producers of renewable fuel that produce less than 125,000 gallons a year are not required to generate and assign RINs to batches of renewable fuel for a maximum of three years beginning with the

participation for farmers who produce less than 10,000 gallons of renewable fuel per year, but are willing to participate in the RINs market.<sup>164</sup> In both cases the producers will need to comply with the RFS program as RINs generators, and follow a number of requirements as: registration, generation, and transfer of RINs with the sale of the fuel; provide transfer documents; follow blending and exporting requirements; follow non-road use of fuel requirements; attest engagements; keep records for 5 years; and report quarterly.

Two significant changes in the provisions and rules of RFS expanded the scope of the program. The first change refers to renewable fuel used for non-road applications. As initially developed, the RFS program was not applicable to renewable fuels that were used or sold for non-road purposes. The reason for that was fairly simple. As established in the EPAct the definition of renewable fuel was linked to the concept of motor vehicle, which does not include non-road vehicles and non-road engines.<sup>165</sup> However, EISA amended the "renewable fuel" definition to include "fuel for use in motor vehicle, motor vehicle engines, nonroad vehicles, or nonroad engines."<sup>166</sup> Consequently, since 2010, renewable fuel used for these purposes can also generate RINs.<sup>167</sup>

The second significant change was the expansion of the definition of fuel oil by an EPA rule in 2013 to include specific heating oil that are subjected to RFS regulations.<sup>168</sup> Under this new rule, heating oil that meets the standards established in 40 C.F.R. § 80.2 (ccc)<sup>169</sup> are eligible to generate RINs, as well as heating oil that is "used to heat interior spaces of homes or buildings to control ambient climate for human comfort."<sup>170</sup> As explained by EPA, the new definition includes fuel oils that do not meet the specifications in § 80.22 but are used to heat homes, plus

calendar year in which the production facility produces its first gallon of renewable fuel. (40 C.F.R. §80.1426 (c)(3)). <sup>164</sup> 40 C.F.R. §80.1455 (b)(2).

<sup>&</sup>lt;sup>165</sup> As established in the 42 U.S.C. §7550(2), "the term 'motor vehicle' means any self-propelled vehicle designed for transporting persons or property on a street or highway."

<sup>&</sup>lt;sup>166</sup> Public Law 110-140 Section 201.

<sup>&</sup>lt;sup>167</sup> For more information please see http://www.gpo.gov/fdsys/pkg/FR-2010-03-26/pdf/2010-3851.pdf

<sup>&</sup>lt;sup>168</sup> Fed. Reg., EPA Issues Final Rule to Expand the Definition of Heating Oil under the Renewable Fuel Standard Program. Available at http://www.gpo.gov/fdsys/pkg/FR-2013-10-22/pdf/2013-24280.pdf

<sup>&</sup>lt;sup>169</sup> As explained in the provision "heating oil means any #1, #2, or non-petroleum diesel blend that is sold for use in furnaces, boilers, and similar applications and which is commonly or commercially known or sold as heating oil, fuel oil, and similar trade names, and that is not jet fuel, kerosene, or MVNRLM diesel fuel."

<sup>&</sup>lt;sup>170</sup> 40 C.R.F. §80.1401. The definition goes on to require that the fuel oil must be at 60 degree Fahrenheit and 1 atmosphere pressure, and contain no more than 2.5% mass solids.

fuel oils that are used to heat other facilities, such as commercial buildings.<sup>171</sup> However, the renewable fuel producer must receive affidavits from the final end user, or users, of the fuel oil as specified in § 80.1451(b)(1)(ii)(T)(3) to be able to generate RINs.

## **III. ENVIRONMENTAL REGISTRATIONS**

There are three environmental registrations that might be triggered by the production of biodiesel. The first is the Annual Registration required for sources that emit more than five tons of air contaminants per year. The registration is through Vermont's DEC, and it must be renewed annually.<sup>172</sup>

EPA also requires two types of registration for the production of biodiesel. The first is the Registration for Fuel and Fuel Additive Registration ("FFARS"), <sup>173</sup> which is required for those interested in selling biodiesel<sup>174</sup> to third parties for on-road purposes as a motor vehicle (B100), or motor vehicle diesel fuel additive (for blend fuel such as B5 and B20).<sup>175</sup> The fuel must be registered prior to the fuel being introduced into commerce.<sup>176</sup> To be registered, the biodiesel must conform to the specifications of American Society for Testing and Materials ("ASTM") 6751.<sup>177</sup> In the alternative, if the biodiesel is not being sold, or is being used on off-road vehicles, engines, or equipment, it does not need to be registered under FFARS.<sup>178</sup>

Registration rules are established under Title 40 C.F.R. Part 79, and are completed by the submission of the forms 3520-12 (for diesel fuels) and 3520-13 (for additives).<sup>179</sup> The information that must be disclosed on these forms include feedstock data, manufacturing process used, emissions, and health effects testing on manufacturer's biodiesel or proof of registration with the National Biodiesel Board ("NBB"). The disclosure must show access to emissions and

<sup>&</sup>lt;sup>171</sup> Fed. Reg., *EPA Issues Final Rule to Expand the Definition of Heating Oil under the Renewable Fuel Standard Program*. Available at http://www.gpo.gov/fdsys/pkg/FR-2013-10-22/pdf/2013-24280.pdf

 $<sup>^{172}</sup>_{172}$  See 10 VSA §555(c)

<sup>&</sup>lt;sup>173</sup> 42 U.S.C. §7545(b), and 40 C.R.F. §79.4.

<sup>&</sup>lt;sup>174</sup> As defined in 40 C.R.F. §79.56(e)(4)(ii)(B)(2).

<sup>&</sup>lt;sup>175</sup> Biodiesel blended with conventional diesel fuel. B5 contains 5% biodiesel and 95% conventional diesel, and B20 contains 20% biodiesel and 80% conventional diesel. Additional information can be found at Environmental Protection Agency, *Guidance for Biodiesel Producers and Biodiesel Blenders/Users* (November, 2007). Available at http://www.epa.gov/otaq/renewablefuels/420b07019.pdf

<sup>&</sup>lt;sup>176</sup>40 C.F.R. §79.4(a)(1).

<sup>&</sup>lt;sup>177</sup> 40 C.R.F. 79, Subparts B and C (additive).

<sup>&</sup>lt;sup>178</sup> EPA, Fuel and Fuel Additive Registration. Available at

http://www.epa.gov/otaq/fuels/registrationfuels/index.htm

<sup>&</sup>lt;sup>179</sup> EPA, *Forms for Registration and Reporting Fuels and Fuel Additives*. Available at http://www.epa.gov/otaq/fuels/registrationfuels/registration.htm

health effects testing data, and results from a representative sample of manufacturer's biodiesel demonstrating compliance with the parameters specific in ASTM 6751.<sup>180</sup> Any biodiesel that does not meet ASTM standards will be considered an unregistered fuel, subject to penalties.<sup>181</sup> Besides registration, regulations also set a number of requirements that manufacturers must comply with, including quarterly and annual reports;<sup>182</sup> samples;<sup>183</sup> and penalties in case of non-compliance.<sup>184</sup>

In addition to FFARS registration, biodiesel producers are also required to register with EPA as refiners.<sup>185</sup> The refinery registration, however, applies for both on-road and off-road biodiesel.<sup>186</sup> To register as refiners, farmers must submit EPA Registration Form 3520-20A (Fuel Programs Company / Entity Registration) and Form 3520-20B1 (Diesel Programs Facility Registration).<sup>187</sup> Under 40 C.F.R. Part 80, on-road and off-road biodiesel producers shall comply with EPA's regulatory requirements for diesel producers, such as 12 parts per million ("ppm") sulfur standard, maximum aromatics content, reporting and recordkeeping requirements, among others.<sup>188</sup>

Raw vegetable oil, as explained by EPA, is "[r]aw vegetable oil or recycled greases (also called waste cooking oil) that have not been processed into esters," and, thus, "are not biodiesel, and are not registered by EPA for legal use in motor vehicles."<sup>189</sup> To operate under this type of fuel, farmers need to seek an EPA certification to convert the motor vehicle or motor vehicle engine to avoid violating the Clean Air Act ("CAA") tampering prohibition.<sup>190</sup> For more information please visit EPA's website at

http://www.epa.gov/otaq/consumer/fuels/altfuels.htm.

<sup>189</sup> EPA Region 7, Fuel Considerations. Available at

<sup>190</sup> 42 U.S.C. §7522(a)(3).

<sup>&</sup>lt;sup>180</sup> 40 C.R.F. Part 79, Subparts B and C (additive).

<sup>&</sup>lt;sup>181</sup> 40 C.F.R. §79.8 (civil penalties up to \$32,500 per day and per violation).

<sup>&</sup>lt;sup>182</sup> 40 C.F.R. §79.5.

<sup>&</sup>lt;sup>183</sup> 40 C.F.R. §79.7.

<sup>&</sup>lt;sup>184</sup> 40 C.F.R. §79.8. Civil penalties can be up to \$25,000 for every day of violation and the amount of economic benefit or savings resulting from the violation.

<sup>&</sup>lt;sup>185</sup> FFARS and RFS registrations are separate registrations which fuel producers need to comply if they fall under the category of producers subject to the regulation.

<sup>&</sup>lt;sup>186</sup> 40 C.F.R. Part 80.

<sup>&</sup>lt;sup>187</sup> Environmental Protection Agency, *Guidance for Biodiesel Producers and Biodiesel Blenders/Users* (November, 2007). Available at http://www.epa.gov/otaq/renewablefuels/420b07019.pdf

<sup>&</sup>lt;sup>188</sup> Environmental Protection Agency, *Guidance for Biodiesel Producers and Biodiesel Blenders/Users* (November, 2007). Available at http://www.epa.gov/otaq/renewablefuels/420b07019.pdf

http://www.epa.gov/region7/biofuels/noncombiodiesel/fuel.htm

# **GROUP DATA ACCESS**

To overcome some of the high costs of emissions and health effects testing for biodiesel facilities required by the EPA's registration process, biodiesel producers can seek an agreement with National Biodiesel Board ("NBB") for its registration group data on testing of biodiesel, which is representative of all products in that group. Under this agreement the NBB will certify to the EPA that the biodiesel producer used NBB's registration data, meeting the EPA's emissions and health effects testing requirement without further need to do separate testing.<sup>1</sup>

<sup>1</sup> Environmental Protection Agency, *Guidance for Biodiesel Producers and Biodiesel Blenders/Users* (November, 2007). Available at http://www.epa.gov/otaq/renewablefuels/420b07019. pdf

## INSURANCE

While becoming increasingly common for the use of biodiesel, some engine manufacturers still limit the warranty coverage to fuel containing no more than 5 percent biodiesel. However, it is important to notice that engine manufacturers provide warranties for the materials and workmanship of the engines, and not the fuel. Thus, according to the Magnuson-Moss Warranty Act,<sup>1</sup> warrantors are prohibited to void a warranty simply because a specific fuel was used, but the warranty can be voided if the engine damage or failure was caused by an external factor, such as the fuel employed.<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> 15 U.S.C. §2301 *et seq.* 

<sup>&</sup>lt;sup>2</sup> Environmental Protection Agency, *Guidance for Biodiesel Producers and Biodiesel Blenders/Users* (November, 2007). Available at

http://www.epa.gov/otaq/renewablefuels/420b07019.pdf

# **CHAPTER 5. ENVIRONMENTAL LEGISLATION**

Most federal biodiesel laws and regulations were developed assuming production through large, commercial production facilities. Thus, small-scale production of biodiesel is often treated the same as large scale production, which can be a great obstacle for farmers interested in developing the sustainable production of on-farm biodiesel. In the following sections we present the federal and state laws and regulations that may be applicable to on-farm production of biodiesel, and their respective thresholds. For a better understanding, the laws were divided in four broader categories: air emissions, water, waste, and community right-to-know. While a few of the federal requirements remains under the authority of EPA through its regionals offices;<sup>191</sup> most of environmental federal, and state, laws are currently implemented and enforced by Vermont's Agency of Natural Resources. The Agency of Natural reviews and issues environmental permits through its Department of Environmental Conservation ("DEC").

The DEC provides a permit assistance page, and offers assistance for applicants in identifying all necessary environmental permits for a given project through its Permit Specialists.<sup>192</sup> It is strongly recommended that farmers interested or involved in the production of biodiesel contact a Permit Specialist before developing a biodiesel production project.

## I. AIR EMISSION REQUIREMENTS

The primary federal air pollution control law is the Clean Air Act ("CAA"). The CAA aims to protect human health, welfare, and the environment by maintaining and improving the quality of the air.<sup>193</sup> Though the CAA is a federal law, it's often administered by the states. In Vermont, the CAA is administrated by the DEC's Air Quality and Climate Division, which issues the applicable permits and registration. Despite the clear, high air pollutant thresholds and the unlikely applicability of the federal law for small scale, on-farm biodiesel production, Vermont adopted a much broader list of sources that are required to seek air permits, and great discretion to the DEC to consider other sources not previously included. Thus, it is likely difficult for a farmer who has a biodiesel facility or who is considering building one to know whether air pollution permits or registration are required. Therefore, as with other state environmental

<sup>&</sup>lt;sup>191</sup> Vermont corresponds to EPA's Region 1 Office.

<sup>&</sup>lt;sup>192</sup> Agency of Natural Resources, *Environmental Assistance Office*. Available at http://www.anr.state.vt.us/dec/ead/pa/index.htm

<sup>&</sup>lt;sup>193</sup>42 U.S.C. §7401(b).

permits, it is recommended to contact the DEC's permitting specialists or advice about a particular project.<sup>194</sup> The following subsections summarize the permits that may be applicable to on-farm biodiesel production facilities:

- Construction Permit: Stationary Air Contaminant Sources; and
- Operating Permit: Stationary Sources; and

CONSTRUCTION PERMIT: STATIONARY AIR CONTAMINANT SOURCES<sup>195</sup>

The Construction Permit is a pre-construction permit, designed to prevent the deterioration from new sources or major modifications in existing sources. While in the federal level there is a list of pollutants that are covered under the program and specific thresholds, <sup>196</sup> in the state level the construction permit is required for all sources that fall into one of the 17 categories of "air contaminant sources" described under Section 5-401 of the Vermont Air Pollution Control Regulations.<sup>197-198</sup> Some of these categories could possibly include an on-farm biodiesel facility, such as:

- "Manufacturing, processing and application of chemicals, including the processing or application of plastics, rubbers or resins;" and
- Any source not listed above, including sources of greenhouse gases that are subject to regulation, which would otherwise be subject to permitting requirements pursuant to the Clean Air Act."

<sup>&</sup>lt;sup>194</sup> VT DEC Environmental Assistance Office, *Permit Assistance*. Available at http://www.anr.state.vt.us/dec/ead/pa/index.htm

<sup>&</sup>lt;sup>195</sup> The Construction Permit: Stationary Air Contaminant Sources is the Vermont version of the federal Prevention of Significant Deterioration ("PSD") permit under the CAA. However, while the federal act establishes clear thresholds for the permit, the permitting requirements in Vermont are more comprehensive than those described under federal law.

<sup>&</sup>lt;sup>196</sup> The pollutants include the six criteria pollutants (lead, sulfur dioxide, nitrogen oxide, carbon monoxide, particular matter (PM  $_{2.5}$  and PM  $_{10}$ ), and ozone), and specific thresholds include the general potential to emit 100 tons per year or more of regulated pollutants in attainment areas, which is the case of Vermont.

<sup>&</sup>lt;sup>197</sup> Vermont statutory authority is found in 10 V.S.A. §556: "No person shall construct or install any air contaminant source classified within a class or category identified by rule of the secretary as being subject to permitting requirements under this section without first submitting a complete application to and obtaining a permit from the secretary."

<sup>&</sup>lt;sup>198</sup> See also Section 5-501 of the Vermont Air Pollution Control Regulations: "No person shall cause, suffer, allow or permit the new construction, installation, or modification of any stationary source classified as an air contaminant source under Section 5-401 herein, unless he or she first submits a complete application to and obtains a permit from the Secretary."

The regulation also gives DEC broad discretion to add others sources that would not otherwise qualify, if the Air Pollution Control Office designates on a case-by-case basis that the source is an air contaminant source.<sup>199</sup>

# **OPERATING PERMIT: STATIONARY SOURCES**<sup>200</sup>

A second permit under the CAA is the Operating Permit, also referred as Title V permit.<sup>201</sup> In Vermont, sources are required to obtain an Operating Permit if they meet the requirements for the Construction Permit and emit at least ten tons of air contaminants per year.<sup>202</sup> Air contaminants are broadly defined by Vermont Statute as "dust, fumes, mist, smoke, other particulate matter, vapor, gas, odorous substances, or any combination thereof."<sup>203</sup> Regulated air contaminants likely to be emitted from a biodiesel production facility include particulates, volatile organic compounds, methanol or ethanol fumes, and hexane (when chemically extracted soybean oil is used).<sup>204</sup>

## **II. WATER REQUIREMENTS**

The main federal water quality control laws are the Clean Water Act ("CWA")<sup>205</sup> and Safe Drinking Water Act ("SDWA").<sup>206</sup> The CWA seeks to restore and maintain the chemical, physical, and biological diversity of the nation's waters.<sup>207</sup> The SDWA, on the other hand, focuses on the protection of water that is designated for human consumption by limiting allowable discharges into public water systems.<sup>208</sup> Similar to the CAA, both are federal laws administrated by the State of Vermont through the DEC, in particular the Watershed Management Division and the Drinking Water and Groundwater Protect Division. DEC is also

<sup>200</sup> The Operating Permit: Stationary Sources is the Vermont version of the federal Title V permit under the CAA. Permitting requirements in Vermont are more comprehensive than those described under federal law.

<sup>&</sup>lt;sup>199</sup> Vermont Air Pollution Control Regulations §5-401.

<sup>&</sup>lt;sup>201</sup> Under the federal law, the thresholds for Title  $\hat{V}$  (Operating Permit) are the potential to emit: (i) 10 tons or more of any hazardous air pollutant per year, or (ii) 25 tons of any combination of hazardous air pollutants per year (42 U.S.C. 7412(a)(1)). The detailed list of hazardous air pollutants is presented in 42 U.S.C. 7412(b)(1).

<sup>&</sup>lt;sup>202</sup> See 10 V.S.A. §556a(a) and Vermont Air Pollution Control Regulations Section 5-1003.

<sup>&</sup>lt;sup>203</sup> 10 V.S.A. §552 (2).

<sup>&</sup>lt;sup>204</sup> EPA, *Environmental Laws Applicable to Construction and Operation of Biodiesel Production Facilities* (2008). Available at http://www.epa.gov/region7/priorities/agriculture/pdf/biodiesel\_manual.pdf

<sup>&</sup>lt;sup>205</sup> 33 U.S.C. §1251, et seq.

<sup>&</sup>lt;sup>206</sup> 42 U.S.C. §300(f), et seq.

<sup>&</sup>lt;sup>207</sup> 33 U.S.C. §1251.

<sup>&</sup>lt;sup>208</sup> EPA.gov, *Safe Drinking Water Act (SDWA)*. Available at http://water.epa.gov/lawsregs/rulesregs/sdwa/index.cfm http://water.epa.gov/lawsregs/guidance/sdwa/upload/2009\_08\_28\_sdwa\_fs\_30ann\_sdwa\_web.pdf

the agency responsible for administrating state water laws. Potential water requirements that biodiesel production facilities may trigger include:

- Underground and Aboveground Storage Tank Requirements;
- Spill, Control, and Countermeasure Plan;
- Wastewater Discharge Permit;
- Stormwater Permits;
- Underground Injection Control Permit;
- Wastewater Disposal System Permit;
- Groundwater Withdrawal Permit and Reporting; and
- Water Quality Certification.

## UNDERGROUND AND ABOVEGROUND STORAGE TANK REQUIREMENTS

Farmers installing a new or modifying an existing storage tank may be required to follow underground and aboveground storage tank requirements. This set of requirements aims to prevent ground and surface water contamination from underground and aboveground liquid storage tank facilities containing regulated substances. Among the regulated substances are any substance regulated under CERCLA, any "motor fuel which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute)," and any other designated substance. <sup>209</sup>

The first, and stricter, set of requirements is related to the installation and modification of underground storage tanks.<sup>210</sup> Facilities containing new or existing underground storage tanks must seek registration with the Secretary of the Agency of Natural Resources,<sup>211</sup> as well as apply for a pre-operation permit.<sup>212</sup> The permit will set forth a number of requirements, including

<sup>210</sup> Underground storage tanks are defined in Vermont's Statute as "any one or combination of tanks, including underground pipes connected to it or the, which is it has been used to contain an accumulation of regulated substances, and the volume of which, including the volume of the underground pipes connected to it or them, is 10 percent or more beneath the surface of the ground." The definition does not include, among others, septic tanks, manure storage tanks, stormwater or wastewater collection system. (10 V.S.A. §1922(10)).

<sup>&</sup>lt;sup>209</sup> Vermont Underground Storage Tank Rules §8-201. Motor fuel is defined in the same section as "petroleum or a petroleum-based substance that is motor gasoline, aviation gasoline, No.1 or No. 2 diesel fuel or any blend containing diesel fuel, or any grade of gasohol, or any other regulated substance typically used in the operation of an engine."

 <sup>&</sup>lt;sup>211</sup> 10 V.S.A. §1923. The registration shall be made by submitting a Vermont Underground Storage Tank Form.
 <sup>212</sup> 10 V.S.A. §1927 (a).

construction materials, standards for the design, leak detection and monitoring requirements, and corrective action in case of releases.<sup>213</sup>

There are a number of exceptions to both requirements. Most important, underground storage tank that stores oil to be used for on-premises heating purposes, or farm and residential tanks used for storing motor fuel, do not need to seek a permit.<sup>214</sup> In addition, farm and residential underground storage tanks that : (i) have a storage capacity equal to or less than 1,100 gallons, and (ii) are used to store motor fuel for noncommercial purposes, or heating oil to be used onpremises heating purposes, are not required to seek registration.<sup>215</sup> On the other hand, if the farm or residential motor fuel underground storage tank has a capacity greater than 1,100 gallons, its owner must seek a registration, as well as comply with municipal land recording and financial responsibility requirements.<sup>216</sup> The same is true for farms that have an underground storage tank of fuel oil for on-premises heating with a capacity greater than 1,100 gallons,<sup>217</sup> but in this case besides the registration, the owner must also comply with the municipal land recording, and if applicable, change-in-service requirements.<sup>218</sup>

The second related requirements refer to above ground storage tanks. Above ground storage tanks refer to "any tank, other than an underground storage tank, containing heating fuel, motor fuel, or used oil."<sup>219</sup> Both heating fuel and motor fuel definitions include biodiesel.<sup>220</sup> The installation of a new aboveground storage tank, or the substantial improvement of an existing

<sup>&</sup>lt;sup>213</sup> 10 V.S.A. §1927 (b).

<sup>&</sup>lt;sup>214</sup> 10 V.S.A. §1922(11).

<sup>&</sup>lt;sup>215</sup> 10 V.S.A. §1923(e). Tanks following this description are classified as "category two underground storage tank" under Vermont Underground Storage Tank Rules §8-201. <sup>216</sup> Vermont Underground Storage Tank Rules §8-301 (b). The financial responsibilities are laid out in §8-305.

<sup>&</sup>lt;sup>217</sup> Tanks following this description are classified as "category three underground storage tank" under Vermont

Underground Storage Tank Rules §8-201. <sup>218</sup> Vermont Underground Storage Tank Rules §8-301 (c).

<sup>&</sup>lt;sup>219</sup> Vermont Aboveground Storage Tank Rules, Subchapter 2.

<sup>&</sup>lt;sup>220</sup> As describe in the Vermont Underground Storage Tank Rules, Subchapter 2, "heating fuel means heating oil, kerosene, or other dyed diesel fuel that is not used to propel a motor vehicle and which is typically used to heat a structure. Heating fuel includes any blend of petroleum and biodiesel used to heat a structure." Motor fuel, on the other hand, is defined as "petroleum or a petroleum-based substance that is motor gasoline, aviation gasoline, No.1 or No. 2 diesel fuel or any blend containing diesel fuel, or any grade of gasohol, or any other regulated substance typically used in the operation of an engine. Motor fuel includes any blend of petroleum and biodiesel used to propel a vehicle." Finally, under the Rules biodiesel is defined as "a fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats, designated B100."

one, shall follow installation and design standards, as well as emergency and corrective actions, set forth in Vermont's Aboveground Storage Tank Rules.<sup>221</sup>

# SPILL PREVENTION, CONTROL AND COUNTERMEASURE PLAN

Under the authority given by the CWA, EPA enacted an Oil Pollution Prevention regulation. The regulation aims to protect navigable waters in the United States and adjoining shorelines.<sup>222</sup> One of the instruments adopted is the Spill Prevention, Control and Countermeasure Plan ("SPCC"). To trigger the SPCC requirements, the biodiesel production facility must meet three criteria: (i) be a non-transportation facility engaging in producing, storing, processing, distributing, using or consuming oil products;<sup>223</sup> (ii) has a total aboveground oil storage capacity greater than 1,320 gallons or a completely buried oil storage capacity greater than 42,000 gallons; and (iii) have a reasonable expectation of an oil discharge in quantities that may be harmful into or upon navigable water of the United States or adjoining shoreline.<sup>224</sup>

For the purposes of the regulation, oil includes "vegetable oil, including oil from seeds, nuts, fruits, or kernel; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredge spoil."<sup>225</sup> As explained by EPA, the oil definition under the Oil Pollution Prevention regulation includes "both the finished biodiesel and the fats, oils, and greases [used] as raw materials."<sup>226</sup>

The reasonable expectation criteria is based upon the location of the biodiesel facility related to streams, ponds, wetlands, rivers, navigable water, and others, as well as factors such as the volume of materials stored, worst-case weather conditions, drainage patters, and soil

<sup>224</sup> 40 C.F.R. §112.1. The reasonable expectation is based upon the location of the biodiesel facility. Thus, the facility location related to streams, ponds, wetlands, rivers, navigable water, among others, and volume of materials stored, worst-case weather conditions, drainage patters, soil conditions must be taken into consideration (40 C.F.R. 112.1 (d)(1)(i)). See also EPA, Environmental Laws Applicable to Construction and Operation of Biodiesel Production Facilities (2008). Available at

<sup>&</sup>lt;sup>221</sup> 10 V.S.A. §1929a(b).

<sup>&</sup>lt;sup>222</sup> 40 C.F.R. §112.1.

<sup>&</sup>lt;sup>223</sup> Farms are expressly mentioned in the regulation as one of the potential regulated facilities if they meet the three requirements triggering the SPCC provisions (40 C.F.R. §112.3(3)). For the purposes of the SPCC regulation, farms are defined as "a facility on a tract of land devoted to the production of crops or raising of animals, including fish, which produced and sold, or normally would have produced and sold, \$1,000 or more of agricultural products during a year" (40 C.F.R. §112.2).

http://www.epa.gov/region7/priorities/agriculture/pdf/biodiesel\_manual.pdf 225 40 C.F.R. §112.2

<sup>&</sup>lt;sup>226</sup> EPA, *Oil Spill Prevention, Control, and Countermeasure (SPCC) Program: Information for Farmers*. Available at http://www.epa.gov/emergencies/docs/oil/spcc/spccfarms.pdf

conditions.<sup>227</sup> "Harmful quantity," on the other hand, refers to the quantities determined by EPA as harmful to the public health or welfare or the environment. Examples include oil discharges that violate water quality standards, or "cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines."<sup>228</sup>

Thus, if the biodiesel production facility meets these three criteria, the farmer must prepare and implement a SPCC before the beginning of operations. Appendix C provides two flowcharts; one regarding the SPCC applicability and the other related to the criteria for substantial harm.

#### WASTEWATER DISCHARGE PERMIT

There are two types of discharge permits that might be applicable to farmers producing their own biodiesel based on where the wastewater is being discharged: Direct Discharge Permit and Pretreatment Discharge Permit. The permits aim to regulate the allowable amount of discharge of high strength waste and toxic pollutants. Biodiesel production facilities might produce wastewater containing pollutants like glycerin, methanol, biodiesel, among other substances, from activities such as cooling or washing biodiesel products.<sup>229</sup> If the farmer plans to discharge the wastewater, he/she must obtain the relevant permit before the discharge takes place.

The Direct Discharge Permit is applicable to discharges of wastewater that are made directly to state surface waters, such as river and streams. Thus, if as part of the biodiesel production activity, the farmer intents to discharge wastewater into a water body, he/she must apply for a Direct Discharge Permit to DEC.<sup>230</sup> The permit applications must be seek at least 180 days prior to the discharge,<sup>231</sup> and the discharge permit will establish, among other issues, the terms of the discharge including nature, volume and frequency of the waste allowed to be discharged.<sup>232</sup>

<sup>&</sup>lt;sup>227</sup> 40 C.F.R. §112.1 (d)(1)(i).

<sup>&</sup>lt;sup>228</sup> 40 C.F.R. §110.3.

<sup>&</sup>lt;sup>229</sup> EPA, *Environmental Laws Applicable to Construction and Operation of Biodiesel Production Facilities* (2008). Available at http://www.epa.gov/region7/priorities/agriculture/pdf/biodiesel\_manual.pdf

<sup>&</sup>lt;sup>230</sup> 10 V.S.A. §1263(a) read as follow: "[a]ny person who intends to discharge waste into the waters of the state or who intends to discharge into an injection well or who intends to discharge into any publicly owned treatment works any waste which interferes with, passes through without treatment, or is otherwise incompatible with that works or would have a substantial adverse effect on that works or on water quality shall make application to the secretary for a discharge permit."

 <sup>&</sup>lt;sup>231</sup> Vermont Water Pollution Control Permit Regulations 13.2 (b)(1). Available at http://www.vtwaterquality.org/ww/Rules/WPC/1974WPCregs.pdf
 <sup>232</sup> 10 V.S.A. §1263(d).

The second discharge permit refers to the federal Pretreatment Discharge Permit.<sup>233</sup> This permit is for direct discharges of wastewater to a municipal wastewater treatment system<sup>234</sup> from industrial and commercial activities that may interfere with the operation of the system. Facilities that plan to discharge: (i) a minimum of 25,000 gallons per day of wastewater, (ii) a minimum of 5 percent of the receiving municipal wastewater treatment system capacity, or (iii) have been determined to have a significant potential to affect a municipal wastewater treatment system, must obtain this permit.<sup>235</sup>

## STORMWATER PERMITS

Another set of water pollution permits is the stormwater permits, which regulates stormwater runoff. There are 3 different stormwater permits that an on-farm biodiesel facility might be required to obtain from DEC's Water Management Division:

- Stormwater General Permit for Construction Sites;
- Stormwater Permit for New Development and Redevelopment;<sup>236</sup> and
- Multi-Sector General Permit (MSGP) for Discharges from Industrial Activities.<sup>237</sup>

The Stormwater General Permit for Construction Sites is related to the construction process itself. It is required for any construction project that disturbs more than 1 acre of land, "including smaller projects that are part of a larger common plan of development (e.g. residential subdivisions) that will disturb 1 or more acres of land."<sup>238</sup>

The Stormwater Permit for New Development and Redevelopment is related to stormwater runoff from impervious surfaces, such as paved and unpaved roads, driveways, and roofs. It is required for situations such as "new development in which the area of all impervious surfaces generating regulated stormwater runoff is equal to or greater than 1 acre" and "[d]ischarges of

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<sup>&</sup>lt;sup>233</sup> 10 V.S.A. §1263(a).

<sup>&</sup>lt;sup>234</sup> Also referred in the regulation as Publicly Owned Treatment Works ("POTW").

<sup>&</sup>lt;sup>235</sup> 40 C.F.R. §403.3 (v)(ii).

 <sup>&</sup>lt;sup>237</sup> 10 V.S.A. §1258. The permit for construction sites and the permit for discharges from industrial activities are part of the National Pollutant Discharge Elimination System ("NDPES") required under the CWA (33 U.S.C. §1342(a)).
 <sup>238</sup> Agency of Natural Resources, *NPDES Stormwater General Permits for Construction Sites (CGP)*. Available at http://www.anr.state.vt.us/dec/permit\_hb/sheet06\_1.pdf. *See* also 10 V.S.A. §1264(d)(1)(D).

stormwater runoff from the expansion of existing impervious surfaces by 5,000 square feet, at an existing development, if total resulting impervious surface is greater than 1 acre.<sup>239</sup>

The Multi-Sector General Permit (MSGP) for Discharges from Industrial Activities is required for stormwater runoff from certain categories of industrial activity including "chemicals and allied products" and "[o]ther stormwater discharge designated by the Director [Regional Administrator of the Environmental Protection Agency or an authorized representative] as needing a permit."<sup>240</sup> It is likely that the process of refining biodiesel probably requires a Multi-Sector General Permit.<sup>241</sup>

It is unclear at this point if biodiesel facilities are exempt from these permits. The Vermont Stormwater Management Rule addresses "regulated stormwater runoff," which is defined as "…precipitation and snowmelt that runs off impervious surfaces."<sup>242</sup> According to this Rule, "[n]o state stormwater discharge permit is required pursuant to this Rule for: (i) discharges of stormwater runoff from farms subject to Accepted Agricultural Practices ("AAPs") adopted by the Secretary of Agriculture, Food and Markets."<sup>243</sup> For a better understating regarding farms subject to APPs please see the box below and the "principally produced" debate. However, one of the state stormwater district managers explained that farms may or may not be exempt from this rule, since it "would be a case by case basis for determination."<sup>244</sup> In addition, the introduction to the APPs instructs farms to obtain a stormwater permit from the DEC before commencing any construction project that disturbs more than one acre of land. <sup>245</sup> Since it is unlikely that a farmer who has a biodiesel facility or who is considering building a facility knows whether stormwater permits are required for that facility, it is strongly recommended that the farmer contact the DEC's permitting specialists.

<sup>&</sup>lt;sup>239</sup> Agency of Natural Resources, *Stormwater Permits for New Development and Redevelopment*. Available at http://www.anr.state.vt.us/dec/permit\_hb/sheet06\_2.pdf. *See* also 10 V.S.A. §1264(d)(1)(D).

<sup>&</sup>lt;sup>240</sup> See Appendix D for list of regulated activities. Available at

http://www.anr.state.vt.us/dec/waterq/stormwater/docs/msgp/sw\_msgp\_2011\_Permit\_Appendices.pdf. See also Agency of Natural Resources, *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity*. Available at http://www.anr.state.vt.us/dec/permit\_hb/sheet06\_4.pdf

<sup>&</sup>lt;sup>241</sup> Email communication with a state stormwater district manager. March 9, 2015.

<sup>&</sup>lt;sup>242</sup> Vermont Stormwater Management Rule §18-201(a)(17). Available at

http://www.watershedmanagement.vt.gov/stormwater/docs/sw\_rule-unimpaired.pdf <sup>243</sup> Vermont Stormwater Management Rule §18-304(a)(1).

<sup>&</sup>lt;sup>244</sup> Email on March 9, 2015.

<sup>&</sup>lt;sup>245</sup> Agency of Natural Resources, Accepted Agricultural Practices (2006). Available at

http://agriculture.vermont.gov/sites/ag/files/ACCEPTED%20AGRICULTURAL%20PRACTICE%20REGULATIONS.pdf

#### ACCEPTED AGRICULTURAL PRACTICES AND STORMWATER EXEMPTION

Designed to reduce non-point source water pollution, the Vermont AAPs describes responsible management of waste, chemicals, nutrients, and soil on farms in order to preserve water quality. The definition of farming in the AAPs is identical to the definition presented in Act 250 before the 2008 update, requiring that fuel production be from "agricultural products or wastes produced on the farm," but no reference to the term "principally." However, the Agency of Agriculture has shown a tendency to use the definition of farming from the updated Act 250 statute. On October 27, 2010, the Assistant Attorney General wrote a letter on behalf of the Agency of Agriculture to the Department of Public Service. The letter concerned whether a methane digester on the Palardy Farms qualified as an agricultural operation. The Assistant Attorney General wrote "[t] he language of the AAPs, the Act 250 statute, and the Act 250 rules is aligned and interpreted consistently to ensure land use regulation in Vermont does not lead to absurd results."<sup>2</sup> She further complemented that "[b]y growing feedstock crops, and also by using at least 51% of those feedstock crops to produce power, Palardy Farms is engaged in bona fide agricultural operations as defined by Vermont's Agency of Agriculture, Food, and Markets and by the legislature under Act 250."<sup>3</sup>

Following the Assistant Attorney General's interpretation, even though the AAPs have not been update to include the "principally produced" language regarding the definition of farming, the term is being applied by the Agency of Agriculture. Under this rationale, the stormwater exemption would only apply if on-farm production of biodiesel uses at least 51% of crops grown on the farm.

<sup>1</sup> 10 V.S.A. §6001(22)(f)

<sup>2</sup> Diane E. Zamos, Letter to Louise Porter – Department of Public Service: RE Docket # 7572 Agnorth BioPower LLC (October 27, 2010).
 <sup>3</sup> Id.

#### UNDERGROUND INJECTION CONTROL PERMIT

In addition, if the farmer plans to construct a new injection well or modify an existing one for the discharge of non-sanitary wastewater - such as storm water, cooling water or other fluids - an Underground Injection Control ("IUC") permit may be required.<sup>246</sup> Injection wells are defined under 10 V.S.A. Chapter 47 as " any opening in the ground used as means of discharging waste except for a dry hole exceeding seven feet in depth with is constructed as, and used solely for the disposal of domestic wastes."<sup>247</sup> Under Chapter 11 of the Environmental Protection Rules

<sup>&</sup>lt;sup>246</sup> Environmental Protection Rules, Chapter 11 §302 (a).

<sup>&</sup>lt;sup>247</sup> 10 V.S.A. §1251 (14).

injection well is also defined as "a disposal system or any bored, drilled, or driven shaft, dug hole, or any other opening in the ground that is used to discharge waste, either under pressure or gravity, to the soil or groundwater."<sup>248</sup> The rule also lists a number of activities under which the injection wells require the permit, including facilities that produces chemicals and allied products, registered under the Standard Industrial Classification ("SIC") numbers 2813 - 2899, and 3952.<sup>249</sup>

## WASTEWATER DISPOSAL SYSTEM PERMIT

The construction of a wastewater disposal system or the modification, replacement or change in connection of an existing one, requires a pre-construction permit.<sup>250</sup> Wastewater disposal systems are defined as

Any piping, pumping, treatment, or disposal system used for the conveyance and treatment of sanitary waste or used water, including, but not limited to, carriage water, shower and wash water, and process wastewater. This definition does not include any internal piping or plumbing, except for mechanical systems, such as pump stations and storage tanks or toilets, that are located inside a building or structure and that are integral to the operation of a wastewater system. This definition also does not include wastewater systems that are used exclusively for the treatment and disposal of animal manure. In this chapter, "wastewater system" refers to a soil-based disposal system of less than 6,500 gallons per day, or a sewage connection of any size.

The permit is also required in case of the construction of a new building or structure, the modification of an existing building or structure, or the change in its use, which results in an increase in the design flow or modifies other operational requirements of a wastewater system.<sup>252</sup> The permit application includes: project description, previous permits, location, water supply, soil data, water supply design, among others.<sup>253</sup>

## GROUNDWATER WITHDRAWAL PERMIT AND REPORTING

The production of biodiesel usually requires an increase in water usage. If due to the production of biodiesel the farmer engages in a new or increased groundwater withdraw<sup>254</sup> of

<sup>&</sup>lt;sup>248</sup> Environmental Protection Rules, Chapter 11 §201 (a)(23).

<sup>&</sup>lt;sup>249</sup> Environmental Protection Rules, Chapter 11 §302 (a)(1)(A)(iii).

<sup>&</sup>lt;sup>250</sup> 10 V.S.A. §1973 (a).

<sup>&</sup>lt;sup>251</sup> 10 V.S.A. §1972 (10).

<sup>&</sup>lt;sup>252</sup> 10 V.S.A. §1973 (a)(5), (6) and (8).

<sup>&</sup>lt;sup>253</sup> For full information, please visit Vermont's Agency of Natural Resources Wastewater System and Potable Water Supply Rules at http://drinkingwater.vt.gov/dwrules/pdf/vtwsr2010.pdf

<sup>&</sup>lt;sup>254</sup> Water withdraw id defined as the "intentional removal by any method or instrument of ground water from a well, spring, or combination of wells or springs" (10 V.S.A. 1416 (8)).

more than 57,600 gallons a day for commercial or industrial uses, he/she must obtain a Groundwater Withdrawal Permit.<sup>255\_256</sup> In addition, if a person withdraws "more than 20,000 gallons per day of groundwater, averaged over a calendar month at a single tract of land of place of business", he/she shall file a Groundwater Withdrawal Reporting "on or before September 1 for the preceding calendar year."<sup>257</sup> Both groundwater withdrawal requirements are exempted for farming use.<sup>258</sup> Farming is, once again, defined as any activity covered under 10 V.S.A. §6001(22).<sup>259</sup>

## WATER QUALITY CERTIFICATION

The Water Quality Certification is a federal requirement triggered by the need for a federal license or permit to "conduct any activity including, but not limited to, the construction or operation of facilities, which result in any discharge into the navigable waters."<sup>260</sup> Thus, if the biodiesel facility requires a Direct Discharge Permit, for instance, the farmer must also request a Water Quality Certification to determine if the activity is in compliance with Vermont Water Quality Standards, among other requirements. DEC's Watershed Management Division is the certifying agency in Vermont.<sup>261</sup>

## **III. WASTE REQUIREMENTS**

The main federal waste control laws regarding biodiesel production facilities are the Toxic Substance Control Act ("TSCA")<sup>262</sup> and Resource Conservation and Recovery Act ("RCRA").<sup>263</sup> TSCA was enacted to protect the human health and the environment against threats from

<sup>&</sup>lt;sup>255</sup> 10 V.S.A. 1418 (a).

<sup>&</sup>lt;sup>256</sup> "New or increased withdrawal" is defined as "(1) The expansion of any existing withdrawal through: (A) additional withdrawal from one or more new wells or springs; or (B) an increase in the rate of withdrawal from a well or spring above the maximum rate set forth in any existing permit issued by the secretary of natural resources under this section; or (2) For previously unpermitted withdrawals, an increase in the rate of withdrawal after July 1, 2010 from a well or spring on a single tract of land or at a place of business of 25 percent of the baseline withdrawal or an increase of 57,600 gallons of groundwater withdrawn, whichever is smaller. (3) For the purposes of this subsection, the baseline withdrawal shall be the highest amount withdrawn by a person between 2005 and 2010." (10 V.S.A. 1418 (a)).

<sup>&</sup>lt;sup>257</sup> Environmental Protection Rules Chapter 24, Groundwater Withdrawal Reporting and Permitting Rules § 24-301. Available at http://drinkingwater.vt.gov/dwrules/pdf/lgwdadoptedrulechp24.pdf

<sup>&</sup>lt;sup>258</sup> 10 V.S.A. 1418 (b)(3) and Environmental Protection Rules Chapter 24, Groundwater Withdrawal Reporting and Permitting Rules § 24-301(4).

<sup>&</sup>lt;sup>259</sup> 10 V.S.A. 1416 (1).

<sup>&</sup>lt;sup>260</sup> 33 U.S.C §1341(a).

<sup>&</sup>lt;sup>261</sup> 10 V.S.A. §1004.

<sup>&</sup>lt;sup>262</sup> 15 U.S.C. §2601 et. seq.

<sup>&</sup>lt;sup>263</sup> 42 U.S.C. §6901, et seq.

chemical substances.<sup>264</sup> RCRA, on the other hand, addresses specific concerns related to the disposal of solid and hazardous wastes.<sup>265</sup> Potential waste requirements include:

- Hazardous Waste Treatment;
- Storage, and Disposal Facility Permit;
- Hazardous Waste Handler Site Identification Number; and
- Pre-Manufacture Notice.

# HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITY PERMIT

The production of biodiesel may generate a number of waste substances that are regulated under the RCRA as hazardous waste.<sup>266</sup> Wastes are considered "hazardous waste" for RCRA applicability in two circumstances: (i) if is listed as hazardous waste<sup>267</sup> or (ii) if the material has at least one hazardous characteristic – ignitability,<sup>268</sup> corrosivity,<sup>269</sup> reactivity,<sup>270</sup> or toxicity.<sup>271</sup> As explained by EPA, biodiesel facilities can generate some wastes that may fall into the "hazardous waste" definition. For example, waste glycerin – if containing sufficient quantities of unrecovered methanol – can be both ignitable and corrosive.<sup>272</sup> Waste methanol,<sup>273</sup> waste water with high or low pH, and spent filter media are other examples of biodiesel production facility wastes that can be considered as hazardous waste.<sup>274</sup>

<sup>&</sup>lt;sup>264</sup> 15 U.S.C. §2601(a).

<sup>&</sup>lt;sup>265</sup> EPA. *History of RCRA*. Available at http://www.epa.gov/osw/laws-regs/rcrahistory.htm

<sup>&</sup>lt;sup>266</sup> As defined in 10 V.S.A. §6602 (4), hazardous waste "means any waste or combination of a solid, liquid, contained gaseous, or semi-solid form, including those which are toxic, corrosive, ignitable, reactive, strong sensitizers, or which generate pressure through decomposition, heat, or other means, which in the judgement of the Secretary may cause, or contribute to, and increase in mortality or an increase in serious irreversible or incapacitating reversible illness, taking into account the toxicity of such waste, its persistence and degradability in nature, and its potential for assimilation, or concentration in tissue, and other factors that may otherwise cause or contribute to adverse acute or chronic effects on the health of persons or other living organisms, or any other matter which may have an unusually destructive effect on water quality if discharged to ground or surface waters of the State."

<sup>&</sup>lt;sup>267</sup> The full list is provided in 40 C.F.R. Part 261, Subpart D, and Vermont Hazardous Waste Management Regulations §7-210 *et seq*.

<sup>&</sup>lt;sup>268</sup> 40 C.F.R. § 261.21, and Vermont Hazardous Waste Management Regulations §7-205.

<sup>&</sup>lt;sup>269</sup> 40 C.F.R. § 261.22, and Vermont Hazardous Waste Management Regulations §7-206.

<sup>&</sup>lt;sup>270</sup> 40 C.F.R. § 261.23, and Vermont Hazardous Waste Management Regulations §7-207.

<sup>&</sup>lt;sup>271</sup> 40 C.F.R. § 261.24, and Vermont Hazardous Waste Management Regulations §7-208.

<sup>&</sup>lt;sup>272</sup> EPA, Non-commercial and Home Biodiesel Waste. Available at

http://www.epa.gov/region7/biofuels/noncombiodiesel/waste.htm.

<sup>&</sup>lt;sup>273</sup> Unless recycled into the process using a closed loop system.

<sup>&</sup>lt;sup>274</sup> EPA, *Environmental Laws Applicable to Construction and Operation of Biodiesel Production Facilities* (2008). Available at http://www.biodiesel.org/docs/ffs-production/epa-guidance-for-biodiesel-producers.pdf?sfvrsn=4

If the biodiesel facility is also going to treat, store, or dispose the hazardous waste, it must obtain a Treatment, Storage, and Disposal Facility ("TSDF") permit.<sup>275-276</sup> In Vermont the permit is issued by DEC's Waste Management and Prevention Division, and must cover the amount and type of hazardous waste, evidence of financial responsibility, contingency plans, and evidence that the personnel employed have the necessary training to assure the safe and adequate operation of the facility, among others.<sup>277</sup>

However, the law also lists some exemptions to the TDSF permit requirement based on specific factors, such as the quantity and quality of the hazardous waste and time which the waste is being stored. Those exemptions include:

- On-site storage of hazardous waste for less or equal to 90 days if the facility generates more than 2,200 pounds/month (also referred as Large Quantity Generator);<sup>278</sup>
- On-site storage of hazardous waste for less or equal to 180 days if the facility generates between 220 and 2,200 pounds /month (also referred as Small Quantity Generator), if the quantity of waste accumulated on-site never exceeds 13,200 pounds;<sup>279</sup>
- On-site storage of hazardous waste for less or equal to 270 days if the facility generates between 220 and 2,200 pounds /month, the waste will be transported to off-site treatment, storage or disposal facility distant 200 miles or more, and never accumulated on-site waste over 13,200 pounds;<sup>280</sup> and
- Facilities that generate less than 220 pounds /month (also referred as Conditionally Exempt Small Quantity Generator).<sup>281</sup>

However, even if the biodiesel production facility is exempted based on the factors above, farmers will still need to comply with the specific standards related to the treatment, storage and disposal of hazardous waste. <sup>282</sup>

<sup>&</sup>lt;sup>275</sup> 42 U.S.C. §6925 (a).

<sup>&</sup>lt;sup>276</sup> The DEC refers to the permit as certification (10 V.S.A. §6606 (a)).

<sup>&</sup>lt;sup>277</sup> 10 V.S.A. §6606(b).

<sup>&</sup>lt;sup>278</sup> 40 C.F.R. §262.34 (a), and Vermont Hazardous Waste Management Regulations §7-308(a).

<sup>&</sup>lt;sup>279</sup> 40 C.F.R. §262.34 (d), and Vermont Hazardous Waste Management Regulations §7-307(a).

<sup>&</sup>lt;sup>280</sup> 40 C.F.R. §262.34 (e).

<sup>&</sup>lt;sup>281</sup> 40 C.F.R. §261.5(a), and Vermont Hazardous Waste Management Regulations §7-306.

## HAZARDOUS WASTE HANDLER SITE IDENTIFICATION NUMBER

Besides the TDSF permit, if the biodiesel facility generates, treats, stores or disposes hazardous waste, it shall also seek an EPA waste handler identification number.<sup>283</sup> The handler identification number must be obtained before the activity takes place. In Vermont, the identification number is provided by the DEC, Waste Management & Prevention Division through the Vermont Hazardous Waste Handler Site ID Form.<sup>284</sup>

## **PRE-MANUFACTURE NOTICE**

The Pre-Manufacture Notice ("PMN") is required for anyone who plans to manufacture and process a new chemical substance for a non-exempt commercial purpose.<sup>285</sup> New chemical substances are "any organic or inorganic substance of a particular molecular identity, including: (i) any combination of such substances occurring in whole or in part as a result of a chemical reaction or occurring in nature, and (2) any element or uncombined radical,"<sup>286</sup> which are not presently on the TSCA Inventory.<sup>287</sup> The farmer can also get an EPA determination whether a particular substance is on the TSCA Confidential Inventory<sup>288</sup> if the applicant can genuinely demonstrate it has bone fide intent to manufacture a chemical substance, also referred as "Notice of Bona Fide Intent to Manufacture." <sup>289</sup> As explained by EPA, regulated new chemicals "include certain biofuels and certain microorganisms used in the production of biofuels. Some biofuels and synthetic fuels may be new chemicals, and thus, would be subject to the [PMN]."<sup>290</sup> Thus, if the biodiesel facility is producing for commercial purposes a substance that falls into the "new chemical substance" definition, the farmer must submit a PMN to EPA at least 90 days prior to its production.<sup>291</sup>

<sup>&</sup>lt;sup>282</sup> The requirements to be followed are set in the Vermont Hazardous Waste Management Regulations (Large Quantity Generators - §7-308(b), Small Quantity Generator - §7-307(c), and Conditionally Exempt Small Quantity Generator - §7-306(c)).

<sup>&</sup>lt;sup>283</sup> 10 V.S.A. §6608(f) and Vermont Hazardous Waste Management Regulations §7-304(a).

<sup>&</sup>lt;sup>284</sup> The form is available at http://www.anr.state.vt.us/dec/wastediv/rcra/pubs/VTNotif2002form.pdf

<sup>&</sup>lt;sup>285</sup> 15 U.S.C. §2604. Only chemical substances that are manufactured and processed for commercial purposes are triggered by TSCA (15 U.S.C. §2604 (i)).

<sup>&</sup>lt;sup>286</sup> 15 U.S.C. §2602(2)(A).

<sup>&</sup>lt;sup>287</sup> 15 U.S.C. §2602(9). TSCA Inventory list is available at

http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html

<sup>&</sup>lt;sup>288</sup> This list refers to chemical identities that have already been submitted to EPA but remains confident. <sup>289</sup> 15 C.F.R. §720.25(b).

<sup>&</sup>lt;sup>290</sup> EPA, Biotechnology Program under the Toxic Substances Control Act (TSCA). Available at http://www.epa.gov/biotech\_rule/pubs/fs-001.htm

<sup>&</sup>lt;sup>291</sup>15 U.S.C. §2604(a)(1).

However, EPA exempts chemical substances from PMN requirements if the substances are manufacture in quantities of 10,000 kilograms or less per year, and have low environmental releases and human exposures.<sup>292</sup> If the facility meets these criteria instead of a PMN, the farmer must provide a notice of intent to manufacture 30 days before the operation to EPA.<sup>293</sup> For an understanding of PMN applicability, please see flowchart at Appendix E.

If the chemical substance is already an existing substance – listed in the TSCA Inventory - the farmer must confirm if there are any related restrictions on the manufacture or use of the substance. In addition, the farmer must comply with any reporting and retention of information requirements, such as: (i) chemical identity and molecular structure of each chemical substance or mixture; (ii) amounts of each substance or mixture processed or manufactured; and (iii) existing environmental and health effects of the substance.<sup>294</sup>

## **IV. COMMUNITY RIGHT-TO-KNOW REQUIREMENTS**

The Community Right-to-Know requirements refer to communication requirements where facilities producing and storing specific amounts of extremely hazardous substances and toxic chemicals must notify state, and local emergency response commissions. These requirements are mainly established in the Emergency Planning and Community Right-to-Know Act ("EPCRA").<sup>295</sup> Methanol is one of the typical biodiesel inputs and outputs that may trigger EPCRA requirements.<sup>296</sup> In Vermont, the designated response authority is the State Emergency Response Commission ("SERC") along with the thirteen Local Emergency Planning Committees ("LEPC").<sup>297</sup> Facilities that fall under EPCRA must comply with four specific communication requirements:

- Emergency Planning;
- Emergency Release Notification;

<sup>&</sup>lt;sup>292</sup> 40 C.F.R. §723.50 (a)

<sup>&</sup>lt;sup>293</sup> 40 C.F.R. §723.50 (e)

<sup>&</sup>lt;sup>294</sup> 15 U.S.C. §2607.

<sup>&</sup>lt;sup>295</sup> 42 U.S.C. §9601 *et seq*.This section of the Act is also often referred as Superfund Amendments and Reauthorization Act ("SARA") Title III .

<sup>&</sup>lt;sup>296</sup> Oklahoma Cooperative Extension Service, *On-Farm Biodiesel Production Regulatory Guide*. Available at http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-7070/AGEC-1020web.pdf. A full list of chemicals subject to EPCRA and CERCLA can be found at EPA, List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA), Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Section 112® of the Clean Air Act (2010). Available at http://vem.vermont.gov/sites/vem/files/\_20\_\_list\_of\_lists\_05\_07\_10.pdf

<sup>&</sup>lt;sup>297</sup> For more information about the LECPs please visit http://vem.vermont.gov/lepc/district\_addresses

- Hazardous Chemical Inventory Reporting; and
- Toxic Chemical Release Inventory

The Emergency Planning is required for all facilities that have Extremely Hazardous Substance ("EHS") equal or greater than the Threshold Planning Quantities ("TPQ") establish for such substance, or if the facility has been designated for emergency planning purposes by the SERC, or by the governor.<sup>298</sup> The full list of EHS and their respective TPQ are presented in 40 C.F.R. Part 355 Appendixes A and B. If the biodiesel facility falls into any of these two circumstances, the farmer shall notify Vermont SERC and the applicable LEPC within 60 days from the acquisition or production of the substance, or when the facility becomes subjected to the legislation.<sup>299</sup>

The Emergency Release Notification is required if a Reportable Quantity ("RQ") of any EHS or a hazardous substance as defined under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") is released from the facility.<sup>300</sup> The EHS and respective RQ are presented in 40 C.F.R. Part 355, Appendixes A and B. For the full list of CERCLA's hazardous substances and their thresholds please see table at 40 C.F.R. 302.4. As explained by EPA, methanol and hexane are two chemicals that if released from a biodiesel production facility in quantities that exceed 5,000 pounds in a 24-hour period must be reported.<sup>301</sup> If the facility meets these two circumstances, the farmer must provide two separate notifications to SERCs and LEPCs of areas likely to be affected by the release.<sup>302</sup> First, the farmer must provide an immediate notification as soon as practicable.<sup>303</sup> Requirements for both notifications can be found in 42 U.S.C. §§11004 (b)(2) and 11004 (c), respectively, and 40 C.F.R. §355.40 (a) and (b). No notification is required if the release results in exposure to persons solely within the boundaries of the facility or if it is federally permitted.<sup>304</sup>

<sup>&</sup>lt;sup>298</sup> 42 U.S.C. §11002, and 40 C.F.R. §355.10(a) and (b).

<sup>&</sup>lt;sup>299</sup> 42 U.S.C. §11002 (c).

<sup>&</sup>lt;sup>300</sup> 42 U.S.C. §11004, and 40 C.F.R. §355.30.

<sup>&</sup>lt;sup>301</sup> EPA, Environmental Laws Applicable to Construction and Operation of Biodiesel Production Facilities (2008). Available at http://www.epa.gov/region7/priorities/agriculture/pdf/biodiesel\_manual.pdf

<sup>&</sup>lt;sup>302</sup> 40 C.F.R. §355.42.

<sup>&</sup>lt;sup>303</sup> 40 C.F.R. §355.43.

<sup>&</sup>lt;sup>304</sup> 42 U.S.C. §11004 (a)(4) and 40 C.F.R. §355.31. Federally permitted release refers to discharges that are in compliance with permits and approvals previous covered by this report, as pointed out in 42 U.S.C. §9601 (10).

The Hazardous Chemical Inventory Reporting is mandatory if the facility is required to prepare or have available a Material Safety Data Sheet ("MSDS") for a hazardous chemical under OSH law and regulations, and if the facility meets any of the following criteria:

- EHS is presented at the facility at any one time in an amount equal or greater than 500 pounds or the TPQ, whichever is lower;<sup>305</sup> or
- Hazardous chemicals,<sup>306</sup> not EHS, are presented at the facility in an amount equal or greater than 10,000 pounds.<sup>307</sup>

If the facility meets any of the criteria, the farmer must submit two set of documents to the appropriate SERC, LEPC, and fire department. The first refers to the MSDS for regulated chemicals that exceeded the quantities three months after the facility becomes subjected to the reporting requirement.<sup>308</sup> The second set of documents refers to what is known as Inventory Reporting, which must be provided every March 1.<sup>309</sup> Inventory Reporting requirements are listed in 42 U.S.C. \$11022(d) and 40 C.F.R. \$\$370.40 - 370.45.

In addition, a farmer might need to provide to EPA an annual Toxic Release Inventory ("TRI") every July 1,<sup>310</sup> if the following conditions are met:

- The facility has 10 or more full-time employees;
- The facility is classified under the Standard Industrial Classification Codes 20 through 39;<sup>311</sup> and
- The facility manufactures, processes or uses toxic chemicals substances in excess of the 10,000 pounds per year for toxic chemicals used at the facility,<sup>312</sup> or 25,000 pounds per year for toxic chemicals manufactured or processed at the facility, such as methanol.<sup>313</sup>

<sup>&</sup>lt;sup>305</sup> 40 C.F.R. §370.10(a)(1).

<sup>&</sup>lt;sup>306</sup> "Hazardous chemical" are all chemicals which a MSDS is required. As explained in the MSDS regulations, means any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified. (29 C.F.R. §1910.1200(c)).

<sup>&</sup>lt;sup>307</sup> 40 C.F.R. §370.10(a)(2).

<sup>&</sup>lt;sup>308</sup> 42 U.S.C. §11021 (a), and 40 C.F.R. 370.30 *et seq.* 

<sup>&</sup>lt;sup>309</sup> 42 U.S.C. § 11022, 40, and C.F.R. §370.40.

<sup>&</sup>lt;sup>310</sup> 42 U.S.C. §11023 (a).

<sup>&</sup>lt;sup>311</sup> As explained by EPA, biodiesel production facilities usually meet this standard.

<sup>&</sup>lt;sup>312</sup> 42 U.S.C. §11023 (f)(1)(A).

<sup>&</sup>lt;sup>313</sup> 42 U.S.C. §11023 (f)(1)(B). A full list of regulated chemicals under this section is presented at 40 C.F.R. 372.65.

## NATIONAL EMERGENCY RELEASE NOTIFICATION

In addition to EPCRA requirements, the release of hazardous substances might also trigger the Emergency Release Notification under the CERCLA.<sup>314</sup> Thus, if the biodiesel facility releases hazardous substances in quantities equal or greater than the reportable quantities established in 40 C.F.R. §320.4, the farmer must also immediately notify the National Response Center at 800-424-8802.<sup>315</sup> Appendix F provides a chart about EPCRA and CERCLA applicability in case of substance release.

## POLLUTION PREVENTION PLANNING

Another potential requirement for on-farm biodiesel production facilities is the Pollution Prevention Planning. As explained by the DEC, the goal of this requirement is to "identify opportunities to reduce or eliminate the generation of hazardous waste and the use of toxic chemicals at the source."<sup>316</sup> The Pollution Prevention Planning is required for all facilities which: (i) routinely generates more than 2,640 pounds of hazardous waste per year or more than 26.4 pounds of acutely hazardous waste per year;<sup>317</sup> or (ii) is classified as a large user.<sup>318</sup> Larger users are defined as facilities that have ten or more full-time employees, registered under SIC Code 20 through 39, and (i) manufactures, processes or uses more than 1,000 pounds of toxic substance per year or (ii) more than 1,000 pounds but less than 10,000 pounds of "a toxic substance per year if that substance accounts for more than 10 percent of the total of toxic substances used at the facility during the year."<sup>319</sup> Toxic substances do not include "constituents of fuels used to provide energy, unless those fuels include hazardous wastes from a generator's process."<sup>320</sup> Toxic chemicals are listed under EPA's TRI.

The Planning, and an updated version developed every three years, must be submitted to DEC's Environmental Assistance Office.<sup>321</sup> Additionally, an Annual Progress Report must be

<sup>&</sup>lt;sup>314</sup> 42 U.S.C. §9601, et seq.

<sup>&</sup>lt;sup>315</sup> 42 U.S.C. §9603.

<sup>&</sup>lt;sup>316</sup> VT DEC Environmental Assistance Office, *Pollution Prevention Planning*. Available at http://www.anr.state.vt.us/dec/ead/ppap/index.htm

<sup>&</sup>lt;sup>317</sup> Vermont Hazardous Waste Management Regulations provide a full list of regulated hazardous waste and acutely hazardous waste in Appendixes I and IV, respectively.

<sup>&</sup>lt;sup>318</sup> 10 V.S.A. §6625(c).

<sup>&</sup>lt;sup>319</sup> 10 V.S.A. §6624(4).

<sup>&</sup>lt;sup>320</sup> 10 V.S.A. § 6624 (7)

<sup>&</sup>lt;sup>321</sup> 10 V.S.A. §6629(a).

submitted to the House and Senate Committees on Natural resources and Energy every March 31.322

## **V. OTHER CONSIDERATIONS**

A number of other environmental laws and regulations might be applicable due to the particularities of a specific project. One example is the National Environmental Policy Act ("NEPA"),<sup>323</sup> which requires that federal agencies take into consideration environmental impact of their actions. Thus, if a farmer is using federal money to finance the construction of a biodiesel production facility, this activity will trigger NEPA and the involved agency will have to prepare an environmental assessment or an environmental impact statement according to the case. However, if farmers are relying on private investments and no federal agency is involved in the project, NEPA will not apply.<sup>324</sup> While NEPA and other environmental legislations are important to have in mind, they are not further analyzed in the present report since they are not triggered solely because of biodiesel production.

If there are particularities related to the project that were not covered in this report, it is highly recommended that the farmer contact a DEC Permit Specialist for potential further environmental requirements.

<sup>&</sup>lt;sup>322</sup> 10 V.S.A. §6630(a).
<sup>323</sup> 42 U.S.C. §4321, *et seq*.
<sup>324</sup> 42 U.S.C. §4332(C).

# APPENDIX A.

# **IRC's FUEL Type, Activities, Uses and Equipment Definitions**

The IRC has a number of different definitions that are relevant for the analysis of tax implications regarding the production of biodiesel. Table 1 summarizes the pertinent definitions of fuel type under IRC. Table 2 summarizes IRC's key definitions regarding activities, uses, and equipment of biodiesel that may trigger tax implications.

Fuel Type	Definition	Authority
Agri- Biodiesel	Biodiesel derived solely from <i>virgin</i> oils, including esters derived from virgin vegetable oils from corn, soybeans, sunflower seeds, cottonseeds, canola, crambe, rapeseeds, safflowers, flaxseeds, rice bran, mustard seeds, and camelina, and from animal fats. *Note that paragraph 20 of the 2008 Proposed Regulation adds an explanation of the term "Agri-biodiesel" at § 48.6426-1(b) of the Regulations. It clarifies that "virgin oils" includes virgin oils not listed at IRC § 40A(d)(2), such as palm oil and fish oil; but must not include biodiesel produced from a feedstock that includes any recycled oils.	26 U.S.C. § 40A(d)(2) 73 Fed. Reg. 43890 (2008)
Alternative Fuel	Includes 7 alternative fuels, including "liquid fuel derived from biomass," but expressly excludes biodiesel.	26 U.S.C. § 6426(d)(2).
Biodiesel	<ul> <li>Monoalkyl esters of long chain fatty acids derived from plant or animal matter which –</li> <li>meet the registration requirements for fuels and fuel additives established by the Environmental Protection Agency under section 211 of the Clean Air Act (45 U.S.C. § 7545). Fuel meets the EPA's registration requirements if the EPA does not require the fuel to be registered;<sup>325</sup> and</li> <li>meet the requirements of ASTM D 6751.</li> </ul>	
Biodiesel Mixture	A mixture of biodiesel and diesel fuel (as defined in IRC § 4083), determined without regard to any use of kerosene. * Note that Par. 20 of the 2008 Proposed Regulation adds an explanation of the term, "Biodiesel mixture" at § 48.6426-1(b) of the Regulations. It clarifies that biodiesel mixture is a mixture of	26 U.S.C. § 6426(c)(3) 73 Fed. Reg. 43890 (2008)

# Table 1. IRC Definition of Fuels

<sup>&</sup>lt;sup>325</sup> See 2008 Proposed Regulation paragraph 20 (73 Fed. Reg. 43890 (2008)), which inserts an explanation of the term "biodiesel" at §48.6426-1(b).

	biodiesel and diesel fuel that contains at least 0.1% (by volume) of diesel fuel. $^{\rm 326}$	
Blended Taxable Fuel	Any taxable fuel produced outside the bulk transfer/terminal system by mixing taxable fuel with respect to which tax has been imposed under IRC § 4081(a) and any other liquid on which tax has not been imposed under IRC § 4081. Does not include blends that contain less than 400 gallons of untaxed liquid (minor blending exclusion).	26 C.F.R. § 48.4081-1(c)
	*Note that Par. 14.2.b of the 2008 Proposed Regulations would remove the exclusion for minor blending.	73 Fed. Reg. 43890 (2008)
Diesel Fuel	Any liquid (other than gasoline) which is suitable for use as a fuel in a diesel-powered highway vehicle, or a diesel-powered train; transmix; and diesel fuel blend stocks identified by the secretary.	26 U.S.C. § 4083(a)(3)
	Any liquid (other than gasoline), which is sold for use or used as a fuel in a diesel-powered highway vehicle.	26 C.F.R. § 48.4041-8(e)
	Any liquid that, without further processing or blending, is suitable for use as a fuel in a diesel-powered highway vehicle or train, but does not include "excluded liquids." Any liquid that contains less than 4% normal paraffins is an excluded liquid, as are No. 5 and No. 6 fuel oils covered by ASTM D 396 ( <i>see</i> Renewable Diesel).	26 C.F.R. §§ 48.4081-1(b); (c)(2)(i); (c)(2)(ii)
	"Biodiesel, although suitable for use as a fuel in a diesel-powered highway vehicle or diesel-powered train, contains less than four percent normal parafins and, therefore, is excluded liquid for the purposes of the definition of diesel fuel provided in § 48.4081- $1(c)(2)$ ."	Rev. Rul. 2002-76
	*Note that Par. 14.1.c of the 2008 Proposed Regulations, together with the explanation of the terms "Mixture," "Biofuel mixture," and "Renewable diesel mixture" in Par. 20 of the 2008 Proposed Regulations, provides that all biodiesel mixtures and renewable diesel mixtures that contain at least 0.1% diesel fuel will no longer be an excluded liquid and <i>will</i> constitute diesel fuel. It follows that only pure biodiesel/renewable diesel will be an exempt fuel.	73 Fed. Reg. 43890 (2008)
Qualified biodiesel mixture	A mixture of biodiesel and diesel fuel, determined without regard to any use of kerosene, which is sold by the taxpayer producing such mixture to any person for use as fuel, or is used as a fuel by the taxpayer producing such mixture.	26 U.S.C. § 40A(b)(1)(B)

<sup>&</sup>lt;sup>326</sup> See also, IRS Notice 2005-62.

Renewable Diesel	<ul> <li>Liquid fuel derived from biomass (defined in IRC § 45K(c)(3) as any organic material other than oil, natural gas, and coal) which –</li> <li>meets the registration requirements for fuels and fuel additives established by the Environmental Protection Agency under section 211 of the Clean Air Act (45 U.S.C. § 7545). Fuel meets the EPA's registration requirements if the EPA does not require the fuel to be registered or if diesel fuel coproduced from renewable diesel and petroleum feedstocks is registered;<sup>327</sup> and</li> <li>meets the requirements of ASTM D 975 or D 396, or other equivalent standard approved by the Secretary.</li> <li><i>But does not include</i> any fuel derived from co-processing biomass with a feedstock which is not biomass.</li> <li>Significantly, Renewable Diesel does <i>not</i> qualify as Agri-Biodiesel.</li> </ul>	26 U.S.C. § 40A(f)(3) 26 U.S.C. § 40A(b)(4)(B) and (d)(2).
Second Generation Biofuel	<ul> <li>Any liquid fuel which –</li> <li>is derived by, or from, qualified feedstocks (including any lignocellulosic or emicellulosic matter that is available on a renewable or recurring basis; and any cultivated algae, cyanobacteria, or lemna), and</li> <li>Meets the registration requirements for fuels and fuel additives established by the Environmental Protection Agency under section 211 of the Clean Air Act.</li> <li><i>But does not include</i> any fuel if:</li> <li>It is an alcohol with a proof of less than 150.</li> <li>More than 4% (determined by weight) of the fuel is any combination of water and sediment, or the ash content of such fuel is more than 1% (determined by weight), or such fuel has an acid number greater than 25.</li> </ul>	26 U.S.C. § 40(b)(6)(E)
Taxable Fuel	Gasoline, diesel fuel, and kerosene.	26 U.S.C. § 4083(a)(1)

<sup>&</sup>lt;sup>327</sup> See 2008 Proposed Regulation, Par. 20 (73 Fed. Reg. 43890 (2008)), which inserts an explanation of the term "renewable diesel" at §48.6426-1(b).

	Definition	Authority
ACTVITIES		
Blender	Any person that produces blended taxable fuel.	26 C.F.R. § 48.4081-1(b)
Bulk Transfer	Any transfer of taxable fuel by pipeline or vessel.	26 C.F.R. § 48.4081-1(b)
Casual off- farm production	No definition found in statutes or regulations.	26 U.S.C. § 40A(b)(1)(D)
Eligible small agri-biodiesel producer	A person who, at all times during the taxable year, has a productive capacity for agri-biodiesel not in excess of 60,000,000 gallons. For the purpose of this limitation, all members of the same controlled group of corporations and all persons under common control are treated as one person.	26 U.S.C. § 40A(e)(1); § 40A(e)(2)
Mixture Producer	The person that has title to the mixture immediately after it is created - 2008 Proposed Regulations, Par. 20 adding § 48.6426-1(b) to the Regulations.	73 Fed. Reg. 43890 (2008)
Position Holder	The person that holds the inventory position in taxable fuel in a terminal, as reflected on the records of the terminal operator. A person holds the inventory position in taxable fuel when that person has a contractual agreement with the terminal operator for use of the storage facilities and terminaling services at the terminal with respect to the taxable fuel. It also includes the terminal operator that owns taxable fuel in its terminal.	26 C.F.R. § 48.4081-1(b)
Producer	Any person that produces alcohol, biodiesel, or renewable diesel - 2008 Proposed Regulations, Par. 20 adding § 48.6426-1(b) to the Regulations.	73 Fed. Reg. 43890 (2008)
Qualified agri-biodiesel production	<ul> <li>Any agri-biodiesel production which is produced by an eligible small agri-biodiesel producer, and which during the taxable year:</li> <li>Is used or sold by such producer to another person for use in the production of a qualified biodiesel mixture in the producer or such other person's trade or business (other than casual offfarm production); for use by the producer or such other person as a fuel in a trade or business; or who sells such agri-</li> </ul>	26 U.S.C. § 40A(b)(4)(B); § 40A(e)(2)

Table 2. IRC Definition	ns Relating to Biod	liesel Activities,	Use and Equipment
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	<ul> <li>biodiesel at retail to another person and places it in the fuel tank of such other person.</li> <li>Is limited to 15,000,000 gallons per taxable year. For the purpose of this limitation, all members of the same controlled group of corporations and all persons under common control are treated as one person.</li> </ul>	
Registered Biodiesel/ Renewable Diesel Producer	A biodiesel producer that is registered under IRC § 4101 as a producer of biodiesel/renewable diesel (2008 Proposed Regulations, Par. 20 adding § 48.6426-1(b) to the Regulations).	73 Fed. Reg. 43890 (2008)
Removal	Any physical transfer of taxable fuel, and any use of taxable fuel other than as a material in the production of taxable fuel or special fuels. Does not include taxable fuel that evaporates or is otherwise lost or destroyed.	26 C.F.R. § 48.4081-1(b)
	Any use of taxable fuel other than in the production of taxable fuels referred to in IRC § 4041, is a removal.	26 U.S.C. § 4083(c)
Reseller	A person that buys and subsequently sells biodiesel or renewable diesel without using the fuel to produce a biodiesel or renewable diesel mixture (2008 Proposed Regulations, Par. 20 adding § 48.6426-1(b) to the Regulations).	73 Fed. Reg. 43890 (2008)
Sale	Transfer of title to, or substantial incidents of ownership in, taxable fuel to the buyer for a consideration, which must consist of money, services, or other property; or the transfer of inventory position in the taxable fuel in a terminal if the transferee becomes the position holder with respect to the taxable fuel.	26 C.F.R. § 48.4081-1(b)
Sold for use as a fuel	The producer sells the fuel and has reason to believe that the mixture will be used as a fuel by either the producer's buyer or any later buyer of the mixture (2008 Proposed Regulations, Par. 20 adding § 48.6426-1(e)(2) to the Regulations).	
USE		
Non-Taxable Use	• Any use which is exempt from the tax imposed by IRC § 4041 other than by reason of a prior imposition of tax (includes off-highway business use – <i>see</i> § 4041(b)(1)(A); use on a farm for farming purposes – <i>see</i> § 4041(f); used as supplies for vessels or aircraft, used as a fuel by the State, fuel for export, used as a fuel by a non-profit educational organization, used by a	26 U.S.C. § 4082(b); 4027

	<ul> <li>blood collector - see § 4041(g)).</li> <li>Any use in a train.</li> <li>Any use described in IRC § 4041(a)(1)(C)(iii)(II) (school bus and intracity transportation).</li> <li>The term does not include any use described in IRC § 6421(e)(2)(C) (use in mobile machinery).</li> </ul>	
	<ul> <li>Any use by a person in a trade or business of such person or in an activity of such person described in IRC § 212 (relating to the production of income) otherwise than as a fuel in a highway vehicle:</li> <li>which at the time of such use is registered, or is required to be registered, for highway use under the laws of any State or foreign country; or</li> <li>which in the case of a highway vehicle owned by the United States is used on the highway.</li> </ul>	26 U.S.C. § 6421(e)(2)
Off Highway Business Use	Includes use of <i>mobile machinery</i> that meet the "design-based test" and the "use-based test." A vehicle consisting of a chassis to which there has been permanently mounted machinery or equipment to perform manufacturing, processing, or farming operations if the operation of the machinery or equipment is unrelated to the transportation on or off the public highways; and which has been specially designed to serve only as a mobile carriage and mount for the particular machinery or equipment involved; and which by reason of such design could not without substantial structural modification be used as a component of a vehicle designed to perform a function of transporting any load other than that particular machinery or equipment (Design Based Test). Also includes use of a vehicle where its use on public highways was less than 7,500 miles during the taxpayer's taxable year (Use Based Test).	
Used as a fuel	A fuel is used as a fuel when it is consumed in the production of energy. For example fuel consumed in an internal combusting engine to power a vehicle or in a furnace to produce heat. Fuel destroyed in a fire or other casualty loss is not used as a fuel (2008 Proposed Regulations, Par. 20 adding § 48.6426-1(e)(1) to the Regulations).	73 Fed. Reg. 43890 (2008)
Use on a Farm for Farming Purpose	Fuel is used in carrying on a trade or business (of farming); on a farm situated in the United States; and for farming purposes. Meaning of <i>trade or business of farming</i> is defined in the Regulations as cultivating, operating, managing a farm for gain or profit, either as an owner or a tenant. The following do <i>not</i> constitute the trade or business of farming:	26 U.S.C. § 6420(c); 26 C.F.R. § 48.6420-4(a)- (g)

	• engaging in forestry or the growing of timber;	
	• operating a garden plot, orchard, or farm for the primary	
	purpose of growing produce for the person's own use;	
	• operation of a farm occupied by a person primarily for residential purposes or used primarily for pleasure	
	residential purposes of used primarily for pleasure.	
	<i>Farm</i> includes stock, dairy, poultry, fruit, fur-bearing animal, and truck farms, plantations, nurseries, ranches, ranges, greenhouses and other similar structures used primarily for raising agricultural or horticultural commodities, and orchards. The Regulations give further guidance on the meaning of <i>farm</i> .	
	<ul> <li>Meaning of <i>farming purposes</i> is limited to use by the owner, tenant, or operator of the farm:</li> <li>in connection with cultivating the soil, raising or harvesting any agricultural or horticultural commodity (including raising, shearing, feeding, caring for, training and managing livestock, bees, poultry etc.) on a farm of which he is the owner, tenant,</li> </ul>	
	or operator. Where the use is by any person other than the owner, tenant, or operator of the farm for the purposes set out in this section, the owner, tenant, or operator of the farm shall be treated as the user and ultimate purchaser of the fuel unless the use is in aerial or other application of fertilizers;	
	• In handning, drying, packing, grading, or storing any agricultural or horticultural commodity in its unmanufactured state; but only if such owner, tenant, or operator produced more than one-half of the commodity;	
	• In connection with the planting, cultivating, caring for, or cutting of trees; or the preparation of trees for market, incidental to farming operations;	
	• in connection with the operation, management, conservation, improvement, or maintenance of such farm and its tools and equipment.	
	Farming purposes does <i>not</i> include fuel used in connection with canning, freezing, packaging, or processing operations, even though these operations are performed on a farm (for example, fuel used to process maple sap into maple syrup). Fuel used in processing operations which change a commodity from its raw or natural state, or operations with respect to a commodity after its character has been changed from its raw or natural state by a processing operation, is not used for farming purposes.	
EOUIPMENT		
Bulk	The taxable fuel distribution system consisting of refineries,	26 C.F.R. §
Transfer /	pipelines, vessels, and terminals. Taxable fuel in a refinery,	48.4081-1(b)
Terminal System	Excludes taxable fuel in the fuel supply tank of any engine, tank car, rail car, trailer, truck or other equipment suitable for ground	
	transportation.	
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	A <i>diesel powered</i> highway vehicle is a highway vehicle propelled by a diesel-powered engine.	26 C.F.R. § 48.4081-1(b)
	A <i>highway</i> vehicle means any self-propelled vehicle, or any trailer or semitrailer, designed to perform a function of transporting a load over public highways (any road in the United States which is not a private road), whether or not also designed to perform other functions. Examples of vehicles that are designed to perform a function of transporting a load over the public highways are passenger automobiles, motorcycles, buses, and highway-type trucks, truck tractors, trailers, and semi-trailers.	26 C.F.R. § 48.4061(a)- 1(d); 26 C.F.R. § 48.4041-8(b)
	A <i>vehicle</i> consists of a chassis, or a chassis and a body if the vehicle has a body, but does not include the vehicle's load.	
	Significantly, the following farming related vehicles are not highway vehicles a self-propelled vehicle, or trailer or semi- trailer:	
Diesel Powered Highway Vehicle	<ul> <li>That consists of a chassis to which there has been permanently mounted machinery or equipment to perform a manufacturing, processing, or farming operation unrelated to transportation on or off the public highways; the chassis has been specially designed to serve only as a mobile carriage and mount for the particular machinery or equipment; and by reason of such special design, such chassis could not, without substantial structural modification, be used as a component of a vehicle designed to perform a function of transporting any load other than the particular machinery or equipment.</li> <li>That is specially designed for the primary function of transporting a particular type of load other than over the public highway in connection with manufacturing, processing, or farming operation; and by reason of such special design the use of such vehicle to transport loads over public highways is substantially limited or impaired (relevant factors include whether vehicle may travel at regular highway speeds; requires a special permit for highway use; is overweight, overheight or over-width for regular use.</li> </ul>	26 C.F.R. § 48.4041-8(b) and (c)
	For the purposes of IRC § 4041, a diesel powered highway vehicle must be a <i>motor vehicle</i> – a vehicle propelled by motor and designed for carrying or towing loads from one place to another, regardless of the type of load or material carried or towed and whether or not the vehicle is registered or required to be registered for highway use. Farm tractors that do not carry or tow a load are not motor vehicles. The 2008 Proposed Regulations clarify that a motor vehicle includes forklift trucks used to carry loads at	

	20 adding § 48.6426-1(b) to the Regulations).	
Rack	A mechanism capable of delivering taxable fuel into a means of transport other than a pipeline or vessel.	26 C.F.R. § 48.4081-1(b)
Refinery	A facility used to produce taxable fuel and from which taxable fuel may be removed by pipeline, vessel, or at a rack. It does not include a facility where only blended fuel or gasohol and no other type of taxable fuel is produced.	26 C.F.R. § 48.4081-1(b)
Terminal	Taxable fuel storage and distribution facility supplied by a pipeline or vessel and from which the taxable fuel may be removed at a rack.	26 C.F.R. § 48.4081-1(b)
Vessel	A waterborne taxable fuel transporting vessel.	26 C.F.R. § 48.4081-1(b)

#### **APPENDIX B.**

#### **LEGISLATIVE HISTORY OF FEDERAL TAX INCENTIVES FOR BIODIESEL**

The Biodiesel Income Tax Credit (§40A) and Biodiesel Excise Tax Credit (§6426) were incentives established in 2004, which have been amended and extended numerous times. They expired on December 31, 2013, so they are currently not applicable to biodiesel transactions after that date. However, a bill currently before the U.S. House of Representatives proposes to retroactively extend the biodiesel tax incentives through December 31, 2015. The Biodiesel Income Tax Credit<sup>328</sup> provided a non-refundable credit against income tax for biodiesel mixture, biodiesel, and agri-biodiesel, applied in the aggregate.<sup>329</sup> Excess credits were allowed to be carried back one year and forward 20 years.<sup>330</sup> The Biodiesel Excise Tax Credit<sup>331</sup> provided an excise tax credit for biodiesel mixture, calculated at \$1.00 per gallon of biodiesel used by the taxpayer to produce biodiesel mixture for sale or use in a trade or business of the taxpayer.<sup>332</sup> The credit was designed to be used against the taxpayer's excise tax liability under IRC § 4081.<sup>333</sup> Any excess credit was allowed to be received either as a cash payment or a refundable income tax credit.<sup>334</sup> In both cases, the credits were only allowed if the taxpayer obtained a certificate from the producer of the biodiesel identifying the product produced and the percentage of biodiesel and agri-biodiesel in the product.<sup>335</sup>

Table 3 presents the legislative history related to federal tax incentives for biodiesel, including the Biodiesel Income Tax Credit and Biodiesel Excise Tax Credit.

<sup>328 26</sup> U.S.C. § 40A

<sup>&</sup>lt;sup>329</sup> 26 U.S.C §40A(f) extends the income tax credit to renewable diesel and renewable diesel mixture.

<sup>&</sup>lt;sup>330</sup> 26 U.S.C. §39(a).

<sup>&</sup>lt;sup>331</sup> 26 U.S.C. § 6426(c).

 $<sup>^{332}</sup>$  26 U.S.C. § 6426 also provides excise tax credits for alcohol fuel mixture, alternative fuel, and alternative fuel mixture. It does not provide a credit for neat biodiesel because neat biodiesel is not subject to excise tax under 26 U.S.C. §4081 because it does not fall within the definition of "diesel fuel" and "taxable fuel."

<sup>&</sup>lt;sup>333</sup> 26 U.S.C. § 6426(a)(1).

<sup>&</sup>lt;sup>334</sup> 26 U.S.C. §§ 6427(e)(1) and 6427(e)(3).

<sup>&</sup>lt;sup>335</sup> 26 U.S.C. §§ 40A(b)(3) and 6426(c)(4).

The American Jobs Creation Act of 2004 (P.L. 108-357) <sup>336</sup>			
<ul> <li>Title III, Subtitle A</li> <li>§ 301 Alcohol and Biodiesel Excise Tax Credit and Extension (new IRC § 6426)</li> <li>§ 302 Biodiesel Income Tax Credit (new IRC § 40A)</li> <li>§ 303 Information Reporting for Persons Claiming Certain Tax Benefits</li> </ul>	<ul> <li>Established the biodiesel income and excise tax incentives in the IRC:</li> <li>\$0.50 per gallon credit for biodiesel; or</li> <li>\$1.00 per gallon credit for agri-biodiesel.</li> </ul>	<i>Expired</i> 31 December 2006	
The Energy Policy Act of 2005	( <b>P.L. 109-58</b> ) <sup>337</sup>		
<ul> <li>Title XIII, Subtitle D</li> <li>§ 1344 Extension of Excise Tax Provisions and Income Tax Credit for Biodiesel</li> <li>§ 1345 Small Agri- Biodiesel Producer Credit (IRC § 40A)</li> </ul>	<ul> <li>Extended biodiesel income and excise tax incentives through to 31 December 2008.</li> <li>Replaced \$1.00/gallon tax credit for agri-biodiesel with a \$0.10/gallon small agri-biodiesel producer credit, applied in addition to the biodiesel and biodiesel mixture credits.</li> </ul>	<i>Expired</i> 31 December 2008	
<b>Energy Improvement and Extension Act of 2008 (P.L. 110-343, Division B)</b> <sup>338</sup>			
Title II • § 202 Credits for Biodiesel and Renewable Diesel	<ul> <li>Increased the biodiesel and biodiesel mixture credits to \$1.00/gallon.</li> <li>Extended the income and excise tax incentives through to 31 December 2009.</li> </ul>	<i>Expired</i> 31 December 2009	
<b>Tax Relief, Unemployment Insurance Reauthorization, and Jobs Creation Act of 2010</b> (P.L. 111-312), <sup>339</sup>			
Title VII, Subtitle A • § 701	• Extended the income and excise tax incentives for	<i>Expired</i> 31 December 2011	

Table 3. Legislative History Relating To Federal Tax Incentives for Biodiesel

 <sup>&</sup>lt;sup>336</sup> Available at http://www.gpo.gov/fdsys/pkg/PLAW-108publ357/pdf/PLAW-108publ357.pdf.
 <sup>337</sup> Available at http://www.gpo.gov/fdsys/pkg/BILLS-109hr6enr/pdf/BILLS-109hr6enr.pdf.
 <sup>338</sup> Available at http://www.gpo.gov/fdsys/pkg/BILLS-110hr6049eas/pdf/BILLS-110hr6049eas.pdf.
 <sup>339</sup> Available at http://www.gpo.gov/fdsys/pkg/PLAW-111publ312/pdf/PLAW-111publ312.pdf.

	biodiesel through to 31 December 2011.		
American Taxpayer Relief Act	<b>c of 2012 (Pub. L. 112-240)</b> <sup>340</sup>		
Title IV • § 405 Extension of Incentives for Biodiesel and Renewable Diesel.	• Extended the biodiesel tax incentives through to 31 December 2013.	<i>Expired</i> 31 December 2013	
Bridges to Clean Energy Future Act of 2014 (HR 5559) <sup>341</sup>			
<ul> <li>§ 6 Extension of Incentives for Biodiesel and Renewable Diesel</li> <li>§ 12 Extension of Excise Tax Credits Relating to Certain Fuels</li> </ul>	<ul> <li>Bill introduced in U.S. House of Representatives on September 19, 2014.</li> <li>Proposes to extend biodiesel tax incentives through to 31 December 2015.</li> </ul>	<i>Pending</i> Proposed expiry 31 December 2015	

 <sup>&</sup>lt;sup>340</sup> Available at http://www.gpo.gov/fdsys/pkg/BILLS-112hr8eas/pdf/BILLS-112hr8eas.pdf.
 <sup>341</sup> Available at https://www.congress.gov/bill/113th-congress/house-bill/5559/text.

### **APPENDIX C.**

# **CURRENT USE PROGRAM FLOWCHARTS: FACILITY AND FARMER QUALIFICATION**



# Do you qualify as a farmer under the Current Use Program?



## APPENDIX D.

#### SPCC FLOWCHARTS: APPLICABILITY AND CRITERIA FOR SUBSTANTIAL HARM

#### SPCC Rule Applicability Flowchart



<sup>&</sup>lt;sup>342</sup> As presented in EPA, *Spill Prevention Control and Countermeasure (SPCC) Plan: Qualified Facilities Applicability*. Available at http://www.epa.gov/oem/docs/oil/spcc/qf\_app\_guidance.pdf

# Flowchart of Criteria for Substantial Harm



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<sup>&</sup>lt;sup>343</sup> As presented in 40 C.F.R. Part 112, Appendix C.

#### APPENDIX E.

#### **PRE-MANUFACTURE NOTICE FLOWCHART: APPLICABILITY**



<sup>344</sup> EPA, *How to Determine Whether a Submission is Required for a Chemical Substance*. Available at http://www.epa.gov/oppt/newchems/pubs/pmnchart.htm

# APPENDIX F.

# HAZARDOUS SUBSTANCE RELEASE, AND EPCRA AND CERCLA APPLICABILITY 345

If a reportable quantity of a substance is released within a 24- hour period at your facility	And if the release is reportable under EPCRA Section 304, you must	And if the release is reportable under CERCLA Section 103, you must
<ul> <li>(a) And the substance</li> <li>is on BOTH the list of</li> <li>EHSs (Appendices A</li> <li>and B of this part)</li> <li>AND the list of</li> <li>CERCLA Hazardous</li> <li>Substances (40 CFR</li> <li>302.4)</li> </ul>	Notify the LEPC and the SERC in accordance with §§355.40 through 355.43 of this part (except for a release during transportation or from storage incident to transportation; see §355.42(b))	Comply with the release notification requirements of CERCLA section 103 and its implementing regulations (40 CFR part 302). Call the NRC at. 800-424-8802
(b) And the substance is on the list of CERCLA Hazardous Substances (40 CFR 302.4) and not on the list of EHSs (Appendices A and B of this part)	Notify the LEPC and the SERC, in accordance with §§355.40 through 355.43 of this part (except for a release during transportation or from storage incident to transportation; see in §355.42(b))	Comply with the release notification requirements of CERCLA section 103 and its implementing regulations (40 CFR part 302). Call the NRC at 800-424-8802.
(c) And the substance is on the list of EHSs (Appendices A and B of this part) and not the list of CERCLA Hazardous Substances (40 CFR 302.4)	Notify the LEPC and the SERC in accordance with §§355.40 through 355.43 of this part (except for a release during transportation or from storage incident to transportation; see §355.42(b))	

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<sup>&</sup>lt;sup>345</sup> Table presented in 40 C.F.R. §355.60.

### APPENDIX G.

# EPCRA HAZARDOUS CHEMICAL INVENTORY REPORTING FLOWCHART 346



<sup>&</sup>lt;sup>346</sup> Vermont Emergency Management, *Community Right-to-Know Reporting Decision Tree*. Available at http://vem.vermont.gov/sites/vem/files/1%20-%20Decision%20Flow%20Chart%202013.pdf

# APPENDIX H.

# <u>CONTACT INFORMATION FOR ENVIRONMENTAL REQUIREMENTS</u><sup>347</sup>

SUBJECT	CONTACT INFORMATION	ADDITIONAL INFORMATION
General State Permits Inquiry	Inquiry DEC's Permit Specialist: http://www.anr.state.vt.us/dec/ead/p a/index.htm	
Construction Permit	AIR QUALITY & CLIMATE DIVISION Contact: Permitting Section Air Quality & Climate Division Phone: 802-828-1288 FAX: 802-828-1250 Address: One National Life Drive, Davis 2 -Montpelier, VT 05620- 3802 Email: doug.elliott@state.vt.us	Available at http://www.anr.state.vt.us/air/Per mitting/htm/ConstructPermits.ht m
Operation Permit	AIR QUALITY & CLIMATE DIVISION Contact: Permitting Section Air Quality & Climate Division Phone: 802-828-1288 FAX: 802-828-1250 Address: One National Life Drive, Davis 2 -Montpelier, VT 05620- 3802 Email: doug.elliott@state.vt.us	Available at http://www.anr.state.vt.us/air/Per mitting/htm/OperatePermits.htm
Annual Registration for Stationary Sources	AIR QUALITY AND CLIMATE DIVISION Contact: - Dan Riley - Planning Section Phone: 802-272-3695 FAX: 802-828-1250 E-mail: dan.riley@state.vt.us - Jeff Merrell-Planning Section Phone: 802-272-3656 e-mail: jeff.merrell@state.vt.us	Available at http://www.anr.state.vt.us/air/Plan ning/index.htm

<sup>&</sup>lt;sup>347</sup> Last updated on May, 2015.

	Address: 1 National Life Drive Davis 2, Montpelier, VT 05620-3802	
Underground and Aboveground Storage Tank Permit	<u>Underground</u> WASTE MANAGEMENT AND PREVENTION DIVISION UST Program Contact: June Reilly, UST Permit Administrator Phone: 802-522-0231 june.reilly@state.vt.us Address: 1 National Life Drive, Davis 1 - Montpelier, VT 05620- 3704 <u>Aboveground</u> WASTE MANAGEMENT AND PREVENTION DIVISION Contact: Chuck Schwer, Section Chief Phone: 802-249-5324 chuck.schwer@state.vt.us Address: 1 National Life Drive, Davis 1 - Montpelier, VT 05620- 3704	Available at http://www.anr.state.vt.us/dec/wa stediv/ust/home.htm.
Spill, Control, and Countermeasure Plan	EPA Hotline: (800) 424-9346	Available at http://www.epa.gov/emergencies/ content/spcc/index.htm
Stormwater Permits	Water Quality Division 10 North, 103 South Main Street, Waterbury, VT 05671-0408 TELEPHONE: 802 241-3770 or 802 241-4320	Available at http://www.anr.state.vt.us/dec/wat erq/stormwater/htm/sw_cgp.htm; http://www.anr.state.vt.us/dec/wat erq/stormwater/htm/sw_3- 9015.htm; and http://www.anr.state.vt.us/dec/wat erq/stormwater/htm/sw_msgp.ht m
Underground Injection Control Permit	Contact: Darlene Autery UIC Coordinator Phone: 802-477-3441 darlene.autery@state.vt.us Address: Department of	Available at http://wastewater.vt.gov/wastewat eruic.htm

	Environmental Conservation Drinking Water and Groundwater Protection Division 1 National Life Drive, Main 2 Montpelier, VT 05620-3521	
Wastewater Disposal System Permit	Wastewater Program Regional Office Contacts: Barre (802) 476- 0190 St Johnsbury (802) 751-0130 Essex (802) 879-5656 Rutland (802) 786-5900 Springfield (802) 885-8956	Wastewater System and Potable Water Supply Rules available at http://drinkingwater.vt.gov/waste water/pdf/finalwspwsrules.effecti ve2007.09.29.pdf
Groundwater Withdrawal Permit and Reporting	Drinking Water and Groundwater Protection Division Rodney Pingree at rodney.pingree@state.vt.us 802-585-4912	Available at http://wastewater.vt.gov/gwwithd rawal.htm
Water Quality Certification	Agency of Natural Resources, Water Quality Division Water Quality Certification Coordinator Megan McIntyre 802-490-6110   megan.mcintyre@state.vt.us Address: 1 National Life Drive Main 2 - Montpelier, VT 05620- 3522	Available at http://www.anr.state.vt.us/dec/wat erq/wqcert401.htm
Hazardous Waste Treatment, Storage, and Disposal Facility Permit	WASTE MANAGEMENT & PREVENTION DIVISION HAZARDOUS WASTE PROGRAM 1 National Life Drive – Davis 1 Montpelier, Vermont 05620-3704 Contact: Marc Roy marc.roy@state.vt.us (802) 522-0275	Available at http://www.anr.state.vt.us/dec/wa stediv/rcra/TSDFpermit.htm
Hazardous Waste Handler Site Identification Number	WASTE MANAGEMENT & PREVENTION DIVISION HAZARDOUS WASTE PROGRAM 1 National Life Drive – Davis 1	Available at http://www.anr.state.vt.us/dec/wa stediv/rcra/handlers.htm

	Montpelier, Vermont 05620-3704 Contact: Marc Roy marc.roy@state.vt.us (802) 522-0275	
Pollution Prevention Planning	Environmental Assistance Office Contact: Lynn Metcalf, Waste Prevention Specialist Phone: 802-522-0469 lynn.metcalf@state.vt.us Address: 1 National Life Drive, Davis 1 – Montpelier, VT – 05620- 3704	Available at http://www.anr.state.vt.us/dec/ead /ppap/index.htm
Pre -Manufacture Notice	EPA's Office of Pollution Prevention and Toxics (OPPT) Toxic Substances Control Act Hotline (tsca-hotline@epa.gov) Call (202) 554-1404	Available at http://www.epa.gov/oppt/newche ms/pubs/pmnforms.htm
SARA Title III	Vermont Emergency Management Division of Emergency Management and Homeland Security (800) 347-0488	Available at http://vem.vermont.gov/programs /epcra
Toxic Release Inventory	TRI Information Center (800) 424-9346 or DC Area Local (703) 412-9810	Available at http://www2.epa.gov/toxics- release-inventory-tri-program
CERCLA Release Notification	National Response Center (800) 424-8802	

