

# The Great Lakes Environmental Law Center

*Protecting the world's greatest freshwater resource  
and the communities that depend upon it*

440 Burroughs Street, Box 70  
Detroit, Michigan 48202  
[www.glelc.org](http://www.glelc.org)

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12/13/10

Ingham County Circuit Court  
313 W. Kalamazoo Street  
P.O. Box 40771  
Lansing, MI 48901

Dear Clerk,

Enclosed please find 1) the original of our Petition for Review of the Michigan Department of Natural Resources and Environment Air Permit to Install No. 116-09; 2) extra copy of the Petition for case number and time stamp; 3) self addressed postage prepaid envelope for the return of the time stamped Petition; 4) Proof of Service; and 5) \$150.00 filing fee.

Please do not hesitate to contact me should you have any questions.

Sincerely,



Nick Schroeck  
Great Lakes Environmental Law Center  
440 Burroughs Street, Box 70  
Detroit, MI 48202  
(313) 820-7797  
[nschroeck@wayne.edu](mailto:nschroeck@wayne.edu)

**STATE OF MICHIGAN  
INGHAM COUNTY CIRCUIT COURT**

SIERRA CLUB, a California non-profit corporation,

Petitioners,

Case No. \_\_\_\_\_ -AA

vs.

Hon. \_\_\_\_\_

MICHIGAN DEPARTMENT OF NATURAL  
RESOURCES AND ENVIRONMENT, a department  
in the Executive Branch of the State of Michigan, and  
REBECCA HUMPHRIES, Director of the  
Michigan Department of Natural Resources and  
Environment,

**PROOF OF SERVICE**

Respondents.

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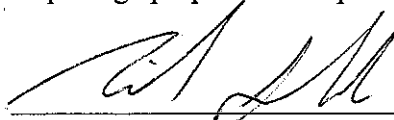
**PROOF OF SERVICE**

STATE OF MICHIGAN) )  
County of Wayne ) ss.  
)

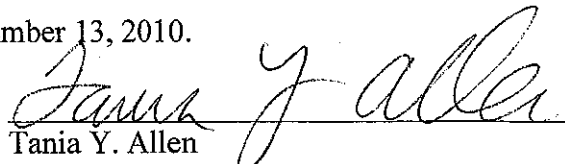
Nicholas J. Schroeck, being first duly sworn, deposes and says that on December 13, 2010, he served a copy of the Petition for Review of the Michigan Department of Natural Resources and Environment Air Permit to Install No. 116-09 on the following individuals:

Director Rebecca Humphries  
Michigan Department of Natural Resources and Environment  
P.O. Box 30473  
Lansing, MI 48909

By placing said documents in an envelope with postage prepaid and depositing in the U.S. Mail.

  
\_\_\_\_\_  
Nicholas J. Schroeck

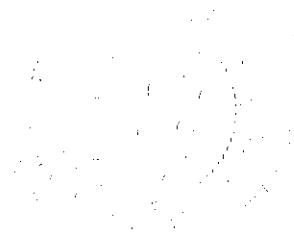
SUBSCRIBED and SWORN to me on December 13, 2010.

  
\_\_\_\_\_  
Tania Y. Allen

Notary Public, Wayne County

My Commission Expires: 7-3-2015

TANIA YVETTE BENNETT ALLEN  
NOTARY PUBLIC, STATE OF MI  
COUNTY OF WAYNE  
MY COMMISSION EXPIRES Jul 3, 2015  
ACTING IN COUNTY OF



**STATE OF MICHIGAN  
INGHAM COUNTY CIRCUIT COURT**

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In the Executive Branch of the State of Michigan, and  
REBECCA HUMPHRIES, Director of the Michigan  
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Respondents.

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**PETITION FOR REVIEW  
OF THE  
MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND  
ENVIRONMENT  
AIR PERMIT TO INSTALL NO. 116-09**

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## PETITION FOR REVIEW

For their Petition to Review (“Petition”) of the Air Permit to Install No. 116-09 (“Permit”) issued by the Michigan Department of Natural Resources and Environment (“MDNRE”) for the Frontier Resources Kinross Wood-to-Ethanol Facility (“Proposed Facility”), the Sierra Club (“Petitioner”), on behalf of its members, states as follows:

### INTRODUCTION

1. This Petition arises out of the MDNRE’s September 15, 2010 issuance of Air Permit to Install No. 116-09 pursuant to the Clean Air Act, 42 U.S.C. § 7475 and 42 U.S.C. § 7410, Michigan regulations implementing the Act, Mich. Admin. Code R. 336.2801 et seq., and the Michigan Air Pollution Control Law, M.C.L. 324.5503 and 324.5505.
2. The Permit authorizes Frontier to install the Proposed Facility and to annually emit:
  - **132 tons of carbon monoxide (“CO”) per year<sup>1</sup>**
  - **1.7 tons of sulfur dioxide (“SO<sub>2</sub>”) per year**
  - **101 tons of nitrogen oxides (“NO<sub>x</sub>”) per year**
  - **51 tons of particulate matter (“PM”) per year**
  - **119 tons of volatile organic compounds (“VOCs”) per year**
  - **> 10 tons of any individual hazardous air pollutant (“HAP”) per year**
  - **> 25 tons of aggregate HAPs per year**
3. MDRE’s issuance of the Permit is not supported by competent, material, and substantial evidence because:
  - The Permit granted under these circumstances qualifies as a “sham” permit because it is inconsistent with the EPA’s interpretation of parts C and D of the

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<sup>1</sup> These numbers are taken directly from Permit To Install 116-09 and are source-wide, not referencing a particular emission unit.

Clean Air Act, stating that minor source construction permits are “sham” permits if one secures a minor source status by agreeing to operate under restrictions that they intend to change shortly after operation initiates;

- The Permit was granted illegally in reliance on emission estimates for fermentation of wood sugars into ethanol based on emission data for fermentation of corn sugars into ethanol.

### **JURISDICTION AND VENUE**

4. This Court has jurisdiction to grant the relief requested in this Petition pursuant to Revised Judicature Act (“RJA”), M.C.L. 600.631, and M.C.L. 324.5505(8), which provides that when MDNRE issues a permit to install for a new source, a petition for review pursuant to the RJA “shall be the exclusive means to obtain judicial review of such a permit and shall be filed within 90 days after the final permit action.”
5. MDNRE issued the Permit on September 15, 2010. This petition is being filed within 90 days of the issuance of the Permit and, therefore, is timely filed.
6. Venue is appropriate in this Court pursuant to M.C.L. 600.631, which provides that a petition for review challenging a final agency action may be filed in the Circuit Court of Ingham County.

### **PARTIES**

7. Petitioner Sierra Club is the nation’s oldest grassroots environmental organization, with more than 600,000 members nationwide. The organization’s Michigan Chapter has 15, 685 members statewide, including 54 in Chippewa County. Sierra Club’s mission is to explore, enjoy and protect the wild places of the earth and educate and

enlist humanity to protect and restore the quality of the natural and human environment. Since its founding over a century ago, Sierra Club has become a national leader in working to reduce air pollution, avoid climate change, and promote clean energy sources. Many Sierra Club members live near and/or downwind of the site for the Proposed Facility and will experience adverse impacts to their health, property, recreational, and/or aesthetic interests from the Proposed Facility and the air pollution emissions allowed by the permit.

8. Respondent Michigan Department of Natural Resources and Environment is a department within the Executive Branch of the State of Michigan with primary responsibility for administration and enforcement of Michigan's environmental laws and rules.
9. Respondent Rebecca Humphries is the Director of MDNRE and its principal executive officer. Her principal office is in the City of Lansing, Ingham County, Michigan.

## **LEGAL BACKGROUND**

### **Clean Air Act**

10. The Clean Air Act, 42 U.S.C. § 7401 et seq., is designed "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." 42 U.S.C. § 7401(b)(1).
11. The Clean Air Act seeks to achieve this goal by establishing National Ambient Air Quality Standards ("NAAQS") that limit the concentration of identified pollutants that can be present in the ambient air. 42 U.S.C. § 7409(b).

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### **FACTUAL BACKGROUND**

#### **The Proposed Facility and Its Emissions**

13. Frontier Renewable Resources, LLC, is proposing to build Frontier Renewable Resources wood to ethanol bio-refinery in Kinross, Michigan.
14. The Proposed Facility estimates that boilers will emit 95 tons per year of carbon monoxide (CO) while producing 40 million gallons of ethanol per year and since new major source review is required for permitting decisions where CO emissions meet or exceed 100 tons per year, Respondents state that the Permit was appropriately reviewed under the minor source requirements.
15. The Proposed Facility plan, Frontier Renewable Resources site plan, notes the potential expansion of the facility to 80 million gallons of ethanol per year along with the potential placement of a co-generation facility.
16. The Permit authorizes the Proposed Facility to emit 1.7 tons per year of SO<sub>2</sub>. At elevated concentrations, SO<sub>2</sub> directly impairs human health by causing and exacerbating respiratory conditions, such as asthma, and cardiovascular illness. *See generally* U.S. EPA, *National Ambient Air Quality Standards for Sulfur Oxides (Sulfur Dioxide) – Final Decision*, 61 Fed. Reg. 25566, 25570-76 (May 22, 1996). The U.S. EPA recently found that existing SO<sub>2</sub> NAAQS are not adequate to protect human health and proposed a more stringent 1-hour SO<sub>2</sub> NAAQS to address adverse respiratory impacts of short-term SO<sub>2</sub> exposure. U.S. EPA, *Primary National*

*Ambient Air Quality Standard for Sulfur Dioxide – Proposed Rule*, 74 Fed. Reg. 64810, 64829 (Dec. 8, 2009).

### **The Permit Application and Draft Permit**

17. Frontier submitted its initial application for the Permit to the MDNRE on May 17, 2010.
18. On June 16, 2010 MDNRE issued a draft Permit for the Proposed Facility.
19. MDNRE held a public hearing on the draft Permit in Kincheloe, Michigan on July 28, 2010, and accepted public comments through July 28, 2010.
20. From June 2010-July 2010 a number of organizations, including Petitioners, filed comments on the draft Permit with the MDNRE. Those comments raised numerous concerns about the draft Permit, including that MDNRE had improperly failed to:
  - Consider the potential expansion of the Proposed Facility to 80 million gallons of ethanol per year and placement of a co-generation facility as was discussed in Frontier Resources site plan and would nearly double the size of the Proposed Facility and circumventing the PSD provisions in the Clean Air Act;
  - Develop an emission dataset for wood-to-ethanol instead of using data from corn to ethanol plants;
  - Render a determination as to whether or not this project will truly be producing “renewable” energy due to Frontier’s indication that the Proposed Facility will use a large amount of natural gas, a non-renewable fossil fuel and that the process itself will use almost 33% more energy in producing the

ethanol as will be contained in the ethanol after production resulting in a net energy loss during the process;

- Analyze the carbon emission by the Proposed Facility, including but not limited to carbon produced by burning fossil fuels in the process, carbon produced in procuring raw materials and transporting finished product and carbon removed from sequestration by use of the amount of timber required for the process including the amount of carbon emitted by burning the final product, ethanol;
- Consider the scope and magnitude of potential natural resource impacts resulting from permitted activities;
- Take into account the 1836 Treaty of Washington which reserves rights and responsibilities by Tribal signatories of that Treaty and neighboring Tribes;
- Consider the ramifications of the proposed use of 2,800 green tons hardwoods logs per day including carbon storage and resource degradation;
- Project Carbon Dioxide emissions from the Proposed Facility;
- Consider the unknown and potentially carcinogenic effects of acrolein and acetaldehyde.

### **The Final Permit and Response to Comments**

21. On September 15, 2010 MDNRE issued the final Permit for the Proposed Facility, which authorizes the construction of the Proposed Facility and sets forth, *inter alia*, emission limits and monitoring, recordkeeping, and reporting requirements for the Proposed Facility.

22. MDNRE also issued a “Response to Comments” document that purports to address the comments regarding the draft Permit made by the public. In the Response to Comments, MDNRE, among other things:

- Explained that the issue of circumvention of PSD does not arise unless there is substantial evidence that the source is intending to circumvent major source review.
- Noted that Frontier’s CO emission factor for the boilers is based on emission testing for a similar boiler and is consistent with CO emissions for similar boilers AQD has evaluated. The 95 tons per year CO emission limit is based on the emission factor and the amount of natural gas allowed to be burned in the boilers.
- Explained that so long as Frontier complies with the natural gas usage limit in the permit conditions, the CO emissions are expected to meet the emission limit.
- Noted that if an application is submitted in the future to install additional equipment that would cause the facility to become a major source, the issue of circumvention will be addressed.
- Noted that commenter’s were correct that there is a lack of data available on emissions from cellulosic ethanol production, especially using wood as the feedstock.
- Noted that certain changes were made to the final permit as a result of public comments, including: the EUEVAPORATORS emission unit description was changed and EUEVAPORATORS was added to the flexible group

FGPROCSCRUB and Frontier is not allowed to operate the evaporators unless the evaporator emissions are controlled by the process vent wet scrubber; Special Condition V.1 of FGPROCSCRUB was modified to include acetaldehyde in the emission testing; Special Condition V.1 of EUFERM, EUDRYER, FGPROCSCRUB, and FGPRETREAT were modified to include acrolein in the emission testing.

- Noted that the AQD has made no determination whether the proposed Frontier ethanol plant is “carbon neutral”, whether the proposed Frontier ethanol plant will produce “renewable” energy, or whether ethanol burns cleaner than gasoline.
- Explained that no comprehensive environmental review of the proposed operation of the Frontier facility is required or warranted prior to issuance of this minor source air permit.
- Noted that there is uncertainty in the emission estimates for EUDRYER and that thermal oxidizers are generally required on dryers corn ethanol plants, including all of the corn ethanol plants in Michigan.
- Explained that the Michigan DNRE’s Air Quality Division is neither required by law nor qualified to perform an analysis on forest resources sustainability relative to the proposed biomass facility.
- Noted that the 2007 Inland Consent Decree defines the extent of the Tribes’ Inland Article 13 Rights and imposes certain limitations on where, when, and how the Tribes may exercise those rights. The Consent Decree addresses consultation between the State and Tribes regarding the Article 13 Rights and

the Air Quality Division defers the forest impact concerns to the consultation protocol delineated in the Consent Decree.

## COUNT I

### **(Sham Permits are not permissive)**

23. The Petitioners restate and incorporate the preceding allegations.
24. For proposed projects with estimated carbon monoxide (CO) emissions that meet or exceed 100 tons per year, new major source review is required for permitting decisions.
25. The boilers at Frontier's facility are currently estimated to emit 95 tons of CO per year, which allows it to be reviewed under minor source requirements.
26. Plans for the facility outline a planned expansion that would increase from the 40 million gallons of ethanol allowed under the current permit to 80 million gallons in the near future.
27. In response to the suggestion that Frontier may be attempting to circumvent major source review, the MDNRE stated, "The issue of circumvention of PSD does not arise unless there is substantial evidence the source is intending to circumvent major source review. The provision for possible future equipment in the facility layout does not constitute such evidence. Many well designed facilities... make provision [sic] for potential future expansion."<sup>2</sup>
28. The MDNRE further stated that the issue of circumvention would be addressed if an application to install additional equipment were submitted in the future.<sup>3</sup>

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<sup>2</sup> Response to Comment Document at 22

<sup>3</sup> *Id.*

29. This position by the MDNRE is inconsistent with the EPA's interpretation of parts C and D of the Clean Air Act which is that attempts to expedite construction by securing minor source status through the receipt of operational restrictions from which the source intends to free itself shortly after operation are to be treated as circumvention of the preconstruction review requirements.
30. Permits granted under these circumstances are considered "sham" permits.
31. In determining whether minor source construction permits are "sham" permits, it is appropriate to consider whether authorized representatives from Frontier have made statements to state or local permitting agencies indicating increased levels of operation.
32. Failure by a permitting agency to adhere to these guidelines may result in a permit that does not legally restrict potential to emit, thereby subjecting a source to major new source review.
33. MDNRE failed to ensure that the operational limitations on the boilers comport with the true design and intended operation of the Frontier project.
34. MDNRE's failure to conduct major new source review for the Frontier Facility is unlawful, arbitrary and capricious, and not supported by competent, material and substantial evidence.
35. The violations described above require that this Permit be vacated and remanded to the MDNRE so that major new source review can be conducted as required by law.

## **COUNT II**

### **(Improper Emissions Estimates Based on Corn Ethanol)**

36. The Petitioners restate and incorporate the preceding allegations.

37. The permitting process requires the owner of a proposed project to submit information required by MDNRE on the application form, which includes projected emissions and a modeling analysis of air quality effects.
38. MDNRE allowed Frontier to estimate emissions based on corn ethanol production because Frontier claimed that no available emissions data for wood ethanol production exist on an industrial scale.
39. MDNRE stated that it “is common and accepted practice” to use data from similar processes when emission data for a certain process is unavailable.<sup>4</sup>
40. MDNRE also stated that the use of engineering calculations is an acceptable method for estimating emissions.<sup>5</sup>
41. MDNRE admitted that there is uncertainty in the current admissions estimates.
42. One of the partners in the proposed Frontier Facility, Mascoma Corporation, has had a cellulosic ethanol facility operating in Rome, New York since June of 2008.
43. Mascoma Corporation has been running trials for processing cellulosic ethanol from woody biomass at the 1,000 gallon and 5,000 gallon scale.
44. MDNRE supposes, without evidence or data, that the fermentation process, and therefore the emission amounts, should be similar for corn and wood ethanol production.
45. MDNRE should have required air emissions modeling for the Frontier Facility based on the Mascoma Corporation trials extrapolated to the proposed Frontier Facility scale.

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<sup>4</sup> Response to Comment Document at 23

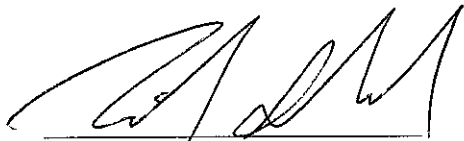
<sup>5</sup> *Id.*

46. MDNRE's failure to require cellulosic wood ethanol emissions estimates and modeling analysis for the Frontier Facility is unlawful, arbitrary and capricious, and not supported by competent, material and substantial evidence.
47. The violations described above require that this Permit be vacated and remanded to the DNRE so that appropriate emissions modeling and analysis can be conducted as required by law.

**REQUEST FOR RELIEF**

48. For the reasons stated above, Petitioners respectfully request that the Court:

- Declare that the MDNRE's issuance of the Permit is unlawful, arbitrary and capricious, and not supported by competent, material, and substantial evidence;
- Vacate the Permit and remand this matter to MDNRE to conduct a major new source review;
- Grant the Petitioner costs and attorney fees as authorized by law; and
- Grant the Petitioner such other relief as may be required under the circumstances, including all other relief that is reasonable, equitable and just.



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Dated: December 13, 2010