NEBRASKA

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DEPT. OF ENVIRONMENT AND ENERGY

Pete Ricketts, Governor

October 16, 2020

Return Receipt Requested
USPS #: 9414811898765820387960

Scott Tingelhoff, General Manager
AltEn, LLC
Capitol Corporate Services, Inc.
1125 S 103rd St.
Suite 800
Omaha, NE 68124

RE:	AltEn, LLC, Special Waste Characterization and Land Disposal Requests
NDEQ ID:	84069
Program ID:	NE0204447

Dear Mr. Tingelhoff,

Between August 31 and September 30, 2020, AltEn, LLC (AltEn), submitted 54 Special Waste Characterization and Land Disposal Requests (Requests) to the Nebraska Department of Environment and Energy (NDEE) seeking to land apply distiller's grain produced during its ethanol production process. These Requests were reviewed using the criteria found in Neb. Admin. Code Title 132, Chapter 13, Sections 002 and 003.

The distiller's grain generated by AltEn is substantially different from distiller's grain generated by other ethanol plants in Nebraska because AltEn uses treated seed corn as one of the feedstocks in its ethanol production process. By using treated seed corn, the wastewater and distiller's grain byproducts AltEn produces have been shown through laboratory analysis to contain detectable quantities of pesticides and fungicides used to treat seed corn.

Because agricultural chemicals are present in AltEn's distiller's grain (hereinafter "waste"), we have determined the waste is a special waste as defined in Title 132, Chapter 1, Section 128 and Title 132, Chapter 13, Section 002.

During our review of your Requests using the criteria of Title 132, Chapter 13, Sections 002 and 003, we concluded the Requests contained insufficient information and, based on the information included in the Requests, identified several significant concerns regarding the chemical properties of the waste. Below is a summary of the deficiencies and concerns.

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Department of Environment and Energy
P.O. Box 98922
Lincoln, Nebraska 68509-8922

Jim Macy, Director
OFFICE 402-471-2186 FAX 402-471-2909
ndee.moreinfo@nebraska.gov

Application Deficiencies

1. The Requests contained a document entitled "Chemical Residues and Monitoring (Distillers Grain)," which provided: "Samples shall be submitted to an appropriate lab that is equipped to analyze and detect trace amounts of the four chemicals [Azoxystrobin, Clothianidin, Thiabendazole, and Thiamethoxam]." Attached to the Requests was a report from Midwest Laboratories, Inc. According to the Eurofins TestAmerica analytical report completed for Midwest Laboratories, Inc., only one sample was analyzed. There is no documentation stating how the sample was taken or the location of the sample; only the date of the sampling, May 12, 2020, was shown. Testing was not completed for Azoxystrobin, Clothianidin, Thiabendazole, or Thiamethoxam and, thus, no lab results for these four chemicals were contained in the lab report provided.

Additionally, AltEn's previous special waste land application request was denied by us on May 20, 2020 for incompleteness and not meeting Title 132, Chapter 13 requirements. The May 20, 2020 denial specifically referenced the requirement in Section 002.06 that requires a detailed description/analysis of the chemical properties of the waste before a request could be approved. The Requests do not include a sufficient description or analysis of the chemical composition of the agricultural chemicals or the leachability of the waste.

2. The Requests only speak to the agronomic rates for nitrogen and Azoxystrobin. No agronomic rates for Clothianidin, Thiabendazole, or Thiamethoxam are listed. The Requests state that applications of the waste will not exceed EPA limits but fail to cite or provide those limits. The Requests also state that up to 20 tons per acre will be applied, but provide no sampling results, no agronomic rates, and no other information showing how this will be determined.

It is our understanding that the chemical composition of treated seed corn is variable between different products offered by each vendor and changes over time. Due to the potential variability in the chemical composition of the feedstock, we anticipate that there is and will continue to be a similarly wide variety of chemicals and chemical concentration in the waste. Due to this variability, it is unlikely sample data from one point in time would help with an agronomic rate that could be applied uniformly to the waste generated by AltEn.

3. AltEn uses treated seed corn as a feedstock and numerous labels for treated seed corn include a warning that the end byproduct (distiller's grain) cannot be land applied due to remaining pesticide residues. For example, Acceleron and Pioneer treated seed corn labels provide: "Excess treated seed may be used for ethanol production only if: (1) by-products are not used for livestock feed, and (2) no measurable residues of pesticides remain in ethanol by-products that are used in agronomic practice." AltEn has failed to provide any information as to why that label warning should be ignored.

Additional Concerns

4. The Requests list four specific chemicals included in the seed corn used in AtlEn's ethanol production process: Azoxystrobin, Clothianidin, Thiabendazole, and Thiamethoxam. These chemicals have all been shown to be detrimental to humans, birds, mammals, bees,

freshwater fish, freshwater invertebrates, estuarine/marine fish, and/or estuarine/marine invertebrates. EPA Pesticide Fact Sheets for these chemicals can be found at:

- Azoxystrobin Interim Registration Review Decision Case Number 7020 (December 2018), Docket Number EPA-HQ-OPP-2009-0835, available at https://beta.regulations.gov/document/EPA-HQ-OPP-2009-0835-0040;
- Pesticide Fact Sheet for Clothianidin (May 30, 2003), available at https://www3.epa.gov/pesticides/chem_search/reg_actions/registration/fs_PC-044309_30-May-03.pdf;
- Petition for Thiabendazole (March 2013), available at https://www.epa.gov/pesticide-registration/thiabendazole-petition-and-response;
- EPA Response to Petition for Thiabendazole (September 25, 2014), available at https://www.epa.gov/sites/production/files/2014-09/documents/epa-response-thiabendazole-sept2014.pdf;
- Clothianidin and Thiamethoxam Proposed Interim Registration Review Decision Case Numbers 7620 and 7614 (January 2020), Docket Numbers EPA-HQ-OPP-2011-0865 and EPA-HQ-OPP-2011-0581, available at https://www.epa.gov/sites/production/files/2020-01/documents/clothianidin_and_thiamethoxam_pid_final_1.pdf;
- Aquatic Life Benchmarks and Ecological Risk Assessments for Registered Pesticides (Updated September 28, 2020), available at https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-and-ecological-risk.

5. The chemicals on treated seed corn are designed to be persistent in the environment. (See Paragraph 4) Although the harm to aquatic life, wildlife, and insects from these chemicals is generally known (see Paragraph 4), the impact from these persistent chemicals in treated seed corn to aquatic life, wildlife, and insects is undergoing more research. (E.g., Claudia Hitak, et al., *Sowing Uncertainty: What We Do and Don't Know about the Planting of Pesticide-Treated Seed*, 70 BioScience 390 (May 2020), available at https://academic.oup.com/bioscience/article/70/5/390/5805569).

6. Several of the agricultural chemicals mentioned in Paragraphs 1 and 4 are in the same family of chemicals (e.g. neonicotinoids). When multiple chemicals in the same family are found in the same media there is the potential of an increase in adverse health effects and environmental harm. (See Paragraph 4)

In this case, we, after consultation with the Nebraska Department of Agriculture and U.S. Environmental Protection Agency, were unable to find any documentation or research evaluating or providing safe application rates for these chemicals when the chemicals are present in the waste, which is not an intended use of these chemicals. Without any data or research providing safe application rates or sufficient lab results for the chemicals, we are unable to evaluate or determine the agronomic rate for the waste containing such chemicals.

7. The Requests state the Description of Proposed Effectiveness of Treatment is to "Improve crop production by adding fertility and organic matter." The May 17, 2019, Stop-

Use and Stop-Sale Order of the Nebraska Department of Agriculture ordered AltEn to "stop distributing AltEn's distiller's grain soil conditioner as a soil conditioner." The Nebraska Commercial Fertilizer and Soil Conditioner Act defines "soil conditioner" as "any formula or product distributed, except unmanipulated animal and vegetable manures, which, when added to the soil, is intended to (a) change the physical condition of the soil or (b) produce a favorable growth, yield, or quality of crops or other soil characteristics but shall not mean a commercial fertilizer, a pesticide as defined in the Pesticide Act, or an agricultural liming material as defined in the Agricultural Liming Materials Act." The May 17, 2019 Order further stated that the distiller's grain contained thiamethoxam and clothianindin. Although we have determined the waste is a special waste, we are concerned that AltEn intends to distribute the waste as a soil conditioner in contravention of the Order and without being registered as a soil conditioner by the Nebraska Department of Agriculture.

After careful consideration and consultation with other State and Federal Agencies, we have determined that: (1) AltEn has not provided sufficient information in its Requests for us to review under the criteria of Title 132, Chapter 13, Sections 002 and 003; and (2) based on the information that was provided in the Requests, there are a number of hurdles to land application of AltEn's waste that appear to be insurmountable regardless of additional data or information. For these reasons, we deny the 54 Special Waste Characterization and Land Disposal Requests. This waste must be disposed of at a permitted solid waste disposal area facility.

If you have any questions regarding this letter please contact me in writing or via e-mail at daniel.lemaistre@nebraska.gov.

Sincerely,

Daniel LeMaistre, PE
Waste Permit Section Supervisor

Cc: Tanner Shaw, AltEn, LLC

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