



REGIONAL AIR POLLUTION CONTROL AGENCY

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May 2, 2006

U.S. Environmental Protection Agency
EPA Docket Center (6102T)
1200 Pennsylvania Avenue, Northwest
Washington, DC 20460

Attention Docket ID No. EPA-HQ-OAR-2006-0089

Dear Sir or Madam:

These comments are provided on behalf of the Regional Air Pollution Control Agency (RAPCA) of Dayton, Ohio in response to the U.S. Environmental Protection Agency's (EPA's) proposed rule for the *Prevention of Significant Deterioration, Nonattainment New Source Review, and Title V: Treatment of Corn Milling Facilities Under the "Major Emitting Facility" Definition* as published in the *Federal Register*/Vol. 71, No. 46/Thursday, March 9, 2006. RAPCA is the local air pollution control agency serving Clark, Darke, Greene, Miami, Montgomery and Preble counties in Southwest Ohio.

RAPCA strongly opposes "Option 1" of EPA's proposal to redefine "chemical processing plants" under the definition of "major emitting facility" to exclude wet and dry corn milling facilities which produce ethanol fuel. Rather, this agency recommends EPA redefine "chemical processing plants" to include wet and dry corn milling facilities that produce ethanol for human consumption, since in either case the production of ethanol involves the "chemical processing" of corn starch with enzymes to produce ethanol, an organic compound (OC). Specifically, various enzymes are added to corn starch to chemically break down the starch polymers, so as to prepare it for the fermentation process which results in the production of ethanol. As mentioned in the proposed rulemaking, the only difference between ethanol produced for fuel versus human consumption, is the last step in which a toxic solvent is added to the ethanol intended for fuel to render it unfit for human consumption. This is referred to as the denaturing step. This is done only to make the ethanol fuel product exempt from the same taxes and regulations imposed by the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) that apply to "potable alcohol" products.

There are various toxic substances added to ethanol to denature it for purposes of rendering it unfit for human consumption. Typically, ethanol intended for fuel is denatured with a small (2-5%) amount of gasoline, a constituent of which is benzene. Other possible additives are methanol, methyl isobutyl ketone, methyl ethyl ketone and isopropanol depending on the intended end use of the ethanol. It is important to note that several of these additive substances are classified as hazardous air pollutants (HAP). Therefore, in addition to the increase in OC emissions that will result from the finalization of EPA's proposed "Option 1", this revision will also result in the increase of HAP emissions. EPA must consider the implications of the increase in HAP emissions as a result of this proposal.

As noted in the proposed rulemaking, EPA has historically categorized the process of producing ethanol fuel through wet and dry corn milling as a chemical process. However, EPA also makes references to the production of ethanol for human consumption as a chemical process, in the following paragraph taken from the *U.S. EPA's AP-42, Fifth Edition Compilation of Air Pollutant Emission Factors, Volume I, Chapter 9.9.7 for Corn Wet Milling (Food and Agriculture Industries) 1/95, page 9.9.7-4.*

"Ethanol is produced by the addition of enzymes to the pure starch slurry to hydrolyze the starch to fermentable sugars. Following hydrolysis, yeast is added to initiate the fermentation process. After about 2 days, approximately 90 percent of the starch is converted to ethanol. The fermentation broth is transferred to a still where the ethanol (about 50 vol%) is distilled. Subsequent distillation and treatment steps produce 95 percent, absolute, or denatured ethanol. More details on this ethanol production process, emissions, and emission factors is contained in Section 6.21, "Ethanol"."

In that the process of hydrolysis is defined as a chemical reaction or process; and this paragraph references Section 6.21, which is listed in the *AP-42 Chapter for "Organic Chemical Process Industry"*, it seems EPA has always understood the process of producing ethanol, be it for human consumption or fuel, to be a chemical process. As such, EPA should continue to treat the process of ethanol production for fuel as a chemical process for the purposes of major source applicability under PSD, nonattainment NSR and Title V regulations. Further, we recommend EPA also include wet and dry corn milling plants utilized for the production of ethanol for human consumption in the "Chemicals and Allied Products" category.

Since we are opposing "Option 1" of EPA's proposal to exclude wet and dry corn milling facilities that produce ethanol fuel from the definition of "chemical processing plant", it is not necessary to comment on whether the EPA should conduct rulemaking under the requirements of 302(j) of the Clean Air Act to redefine the applicability of fugitive emissions relative to chemical process plants. Instead, it is RAPCA's position that EPA maintain the inclusion of wet and dry corn milling facilities which produce ethanol fuel as "chemical processing plants"; for consistency, redefine wet and dry corn milling facilities that produce ethanol for human consumption as "chemical processing plants"; and to appropriately count the fugitive emissions when making major source determinations under PSD, nonattainment NSR and Title V.

EPA was delegated to establish federal standards of performance for stationary sources that significantly contribute to air pollution. EPA has accomplished this through the current regulatory scheme for wet and dry corn milling plants producing ethanol fuel with regards to PSD, nonattainment NSR and Title V. With the predicted growth of the

ethanol fuel production industry, the emissions from this particular group of chemical processing plants will contribute significantly to the increase of the total OC and HAP emissions. This in combination with the numerous areas in the U.S. currently designated as nonattainment for ozone, makes it clear that EPA's finalization of "Option 1" in this proposal would make the achievement of attainment in those areas that much harder, as well as be a detriment to public health and the environment.

This agency is not wishing to stymie the growth of the wet and dry corn milling industry for the production of ethanol fuel. The claim that failure to change the classification under which wet and dry corn milling produces ethanol fuel has hampered past production, or will hamper projected production, appears to be unfounded. A listing at <http://ethanol.org> found there are currently 98 ethanol plants now producing 4,603 million gallons of ethanol fuel per year, and there are 31 ethanol fuel plants now under construction which will produce an additional 1,745 million gallons of ethanol fuel per year. All of these plants were or are being constructed under the current EPA designations for chemical processing plants. The fact that there are 31 plants now under construction leads this agency to believe this industry growth has not been hampered by the PSD threshold presently in effect.

RAPCA understands the political and economical need for the United States to produce alternative sources of fuel is very high. However, there is no supporting evidence that the environmental regulations must be weakened to enhance the growth of the ethanol fuel industry. On the contrary, this industry is rapidly growing and future growth, particularly in agricultural areas (many of which are attainment) is anticipated. Therefore, it is vitally important to continue to impose the appropriate emission controls and monitoring requirements for this growing industry in order to maintain the air quality.

In summary, RAPCA recommends the EPA not increase the air emissions threshold for wet and dry corn milling plants producing ethanol fuel up to 250 tons/year. Instead, we strongly encourage EPA to maintain the current definition in "Option 2"; and to address the issue of inconsistency, redefine wet and dry corn milling facilities that produce ethanol for human consumption as chemical processing plants, such that the 100 tons/year PSD threshold applies to all ethanol producing plants.

We appreciate the opportunity to comment. Please direct any questions or comments to this writer.

Sincerely,

Jennifer Marsee
Abatement Unit Supervisor

cc: John Paul, RAPCA Supervisor