

PRELIMINARY DRAFT SUBMITTED FOR PUBLIC COMMENT
January 24, 2011

KAAPA Ethanol Corn Ethanol LCFA Pathway 2A Application

Plant Summary

KAAPA Ethanol, LLC, (KAAPA) operates a gas-fired, dry mill corn ethanol facility in Minden, Nebraska. The ethanol production capacity of the Minden plant is about 60 million gallons per year. One hundred percent of the distillers' grains with solubles produced by the plant are wet distillers' grains with solubles (WDGS). The plant has no capability to produce dry distillers' grains with solubles (DDGS).

Carbon Intensity of Ethanol Produced

The carbon intensity of the Minden plant, as calculated by KAAPA, is 50.31 gCO₂e/MJ of ethanol produced. This carbon intensity value does not include the greenhouse gas emissions from land use change. Including a 30 gCO₂e/MJ value for the land use change component results in a total carbon intensity value of 80.31 gCO₂e/MJ for the Minden Plant. The reference direct carbon intensity from the LCFS Lookup Table for a Midwest, gas-fired, dry-mill plant producing 100 percent WDGS is 90.10 gCO₂e per MJ. Because the proposed carbon intensity is five or more gCO₂e/MJ below the reference pathway carbon intensity, the proposed pathway meets the LCFS substantiality requirement.

Table 1: Proposed Lookup Table Entry for the KAAPA Ethanol Minden Plant

Fuel/Feedstock	Proposed Lookup Table Pathway Description	Carbon Intensity (Including Indirect Effects)	Do Special Conditions Apply? (Y/N)¹
Natural Gas/Corn	Midwestern Dry Mill Corn Ethanol, WDGS, NG	80.31	Y

¹ The special conditions to which this column refers are discussed in the "Carbon Intensity of the Ethanol Produced" section of this summary

The Minden plant achieves a lower carbon intensity value relative to the reference pathway through three principal means. First, the plant incorporates modern plant design developed by ICM that results in less energy use in the plant. Energy use at the Iowa Falls plant is below the 22,430 BTU per gallon energy use value that forms the basis of the carbon intensity for the reference WDGS pathway. Second, electricity use at the Iowa Falls plant is below the 1.08 kw-hr per gallon that is assumed for the reference pathway. Thirdly, the ethanol yield of the Minden plant is higher than the 2.72 gallons per bushel that is assumed for the reference pathway.¹ The Minden plant's total energy use value, electricity use value, and ethanol yield value will become operating conditions

¹ Actual plant energy use and ethanol yield values are classified as confidential business information and not reported herein.

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upon approval by the Executive Officer of the carbon intensity value. The energy and electricity use values shall not exceed the current values that are classified by the applicant as confidential business information, while the ethanol plant yield value shall not be less than the value that is classified as confidential business information.

Staff Analysis and Recommendation

Staff has reviewed the KAAPA application for the Minden plant and has replicated using the CA-GREET spreadsheet the carbon intensity value calculated by KAAPA. KAAPA has provided documentation for the plant's energy use and ethanol production. Staff is satisfied that energy value in the application accurately represents the plant's energy value. Staff is satisfied that the electricity use value in the application accurately represents the plant's electricity value. Staff believes that the carbon intensity value calculated by KAAPA is sustainable. Consequently, staff believes that the direct carbon intensity value of 50.31 gCO₂e/MJ accurately represents the carbon intensity value of the Minden plant. Including a 30 gCO₂e/MJ value for the indirect land use change component results in a total carbon intensity value of 80.31 gCO₂e/MJ for the Minden Plant. Therefore, staff recommends that the KAAPA application for a Method 2A corn ethanol pathway be approved.