

PRELIMINARY DRAFT SUBMITTED FOR PUBLIC COMMENT
December 14, 2010

Green Plains Holdings, Lakota Corn Ethanol Sub-pathway 2A Application

Plant Summary

The Green Plains Holdings (Green Plains), Lakota Plant Division operates a gas-fired, dry mill, corn ethanol facility in Lakota, Iowa. Green Plains has submitted an LCFS Method 2A application for the Lakota plant. The ethanol production capacity of the Lakota plant is 100 million gallons per year. The plant is ICM-designed producing about 25 percent wet distillers' grains with solubles (WDGS) and about 75 percent dry distillers' grains with solubles (DDGS).

Carbon Intensity of Ethanol Produced

Although the Lakota plant produces DGS at two distinct moisture levels, it is applying for a single carbon intensity. The DDGS and WDGS are produced simultaneously; there is no practical way to collect data on the emissions associated with 100 percent WDGS and 100 percent DDGS operation. The carbon intensity of the Lakota plant, as calculated by Green Plains Holdings, is 91.6 gCO₂e/MJ of ethanol produced. The reference carbon intensity from the LCFS Lookup Table is 98.4 gCO₂e per MJ for DDGS. Because the proposed CI is five or more gCO₂e/MJ below the reference pathway CI, the proposed pathway meets the LCFS substantiality requirement.

The Green Plains 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, which results in less energy use in the plant. Energy use at the Lakota plant is below the 36,000 BTU per gallon energy use value that forms the basis of the carbon intensity for the reference dry DGS pathway. Second, electricity use at the Lakota plant is below the 1.08 kw-hr per gallon that is assumed for the reference pathway.¹ Third, due to the proximity of the corn farms to the Lakota plant, corn transportation distances are less. The average transportation distance from the cornfield to the corn stacks is only two miles, compared to a distance of 10 miles in the reference pathway. The distance from the corn stacks to the ethanol plant is only 17 miles, compared to 40 miles in the reference pathway.

Staff Analysis and Recommendation

The staff has reviewed the Green Plains Holdings application for the Lakota plant and has replicated, using the CA-GREET spreadsheet, the carbon intensity value calculated by Green Plains Holdings. Green Plains Holdings has provided documentation for the plant's energy use and ethanol production. The staff is satisfied that the energy value in the application accurately represents the plant's energy value. The staff is satisfied that the electricity use value in the application accurately represents the plant's electricity value. The staff believes that the

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

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carbon intensity value calculated by Green Plains is sustainable. Consequently, the staff believes that the carbon intensity value of 91.6 gCO₂e/MJ accurately represents the carbon intensity value of the Green Plains plant. Therefore, the staff recommends that Green Plains' application for a Method 2A corn ethanol pathway be approved.