## June 25, 2009

## **MEMORANDUM**

TO: Air Docket EPA-HQ-OAR-2005-0161

SUBJECT: Docket Key for Renewable Fuel Lifecycle Greenhouse Gas (GHG) Emissions Results

To facilitate public review, EPA is providing the following directory to lifecycle analysis results available on the public docket. EPA's lifecycle analysis as part of proposed revisions to the Renewable Fuels Standard (RFS2) Program is explained in the preamble and in the Draft Regulatory Impact Analysis for the RFS2 Notice of Proposed Rulemaking. The documents listed below contain a subset of information about EPA's lifecycle analysis which can be used to review EPA's results. Reviewers should refer to the RFS2 docket for further information. The documents listed below and additional information are available at www.regulations.gov under Docket ID: EPA-HQ-OAR-2005-0161.

| Document #<br>EPA-HQ-OAR-2005-0161-0925                    | <b>Title</b> Calculation of Lifecycle Greenhouse Gas   | <b>Description</b> Memorandum to the docket briefly describing the petroleum baseline calculation spreadhseet.   |
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|  | Emissions for the 2005 Gasoline and Diesel Baselines   |  |
| EPA-HQ-OAR-2005-0161-0925.1                                |  | Lifecycle GHG calculations for the 2005 petroleum baseline. Many of the data inputs in this sheet come from a version of GREET 1.8 that is also on the docket.   |
| EPA-HQ-OAR-2005-0161-0956                                  | GREET 1.8b for Petroleum Lifecycle GHG<br>Analysis   | Version of GREET 1.8 used for 2005 petroluem baseline lifecycle GHG calculations   |
| EPA-HQ-OAR-2005-0161-0938                                  | Renewable Fuel Lifecycle GHG Emissions<br>Results Spreadsheets                                   | Memorandum to the docket briefly describing the lifecycle GHG emissions results spreadsheets, which combine all of the significant direct and indirect lifecycle GHG emissions to calculate the overall percent reductions compared to the petroleum baseline. |
| EPA-HQ-OAR-2005-0161-0938.1                                |  | Biodiesel lifecycle GHG emissions results  |
| EPA-HQ-OAR-2005-0161-0938.2<br>EPA-HQ-OAR-2005-0161-0938.3 |  | Corn ethanol lifecycle GHG emissions results Sugarcane ethanol lifecycle GHG emissions results   |
| EPA-HQ-OAR-2005-0161-0938.4                                |  | Corn ethanol lifecycle GHG emissions results for Low Corn Only Case (note: the "scenario" tab in this spreadsheet is incorrect but does not affect the results)  |
| EPA-HQ-OAR-2005-0161-0938.5                                |  | Corn stover lifecycle GHG emissions results  |
| EPA-HQ-OAR-2005-0161-0938.6                                |  | Switchgrass ethanol lifecycle GHG emissions results  |
| EPA-HQ-OAR-2005-0161-0945                                  | Food and Agricultural Policy Research<br>Institute (FAPRI) Results for Lifecycle GHG<br>Analysis | Memorandum to the docket briefly describing FAPRI model results spreadsheets.  |
| EPA-HQ-OAR-2005-0161-0945.1<br>EPA-HQ-OAR-2005-0161-0945.2 | .,   | FAPRI crop production results for all biofuel cases FAPRI livestock results for all biofuel cases  |

| Document #                   | Title   | Description   |
|------------------------------|---|---|
| EPA-HQ-OAR-2005-0161-0947    | Foreign Agricultural Inputs Data for Lifecycle GHG Analysis                             | Memorandum to the docket briefly describing the foreign agricultural input spreadsheets.      |
| EPA-HQ-OAR-2005-0161-0947.1  | •   | Summary of GHG emissions from foreign agricultural energy use for all biofuel cases           |
| EPA-HQ-OAR-2005-0161-0947.2  |   | Summary of international rice methane emissions for 2012, 2017 and 2022 for all biofuel Cases |
| EPA-HQ-OAR-2005-0161-0947.3  |   | 2022 results for the Biodiesel Only Case  |
| EPA-HQ-OAR-2005-0161-0947.4  |   | 2022 results for the Corn Only Case   |
| EPA-HQ-OAR-2005-0161-0947.5  |   | 2022 results for the Import Only Case   |
| EPA-HQ-OAR-2005-0161-0947.6  |   | 2022 results for the Low Corn Only Case   |
| EPA-HQ-OAR-2005-0161-0947.7  |   | 2022 results for the RFS2 Control Case  |
| EPA-HQ-OAR-2005-0161-0947.8  |   | Summary of foreign agricultural inputs results for all biofuel cases                          |
| EPA-HQ-OAR-2005-0161-0947.9  |   | 2022 results for the Switchgrass Only Case  |
| EPA-HQ-OAR-2005-0161-0947.10 |   | 2017 results for the Biodiesel Only Case  |
| EPA-HQ-OAR-2005-0161-0947.11 |   | 2017 results for the Corn Only Case   |
| EPA-HQ-OAR-2005-0161-0947.12 |   | 2012 results for the Biodiesel Only Case  |
| EPA-HQ-OAR-2005-0161-0947.13 |   | 2012 results for the Corn Only Case   |
| EPA-HQ-OAR-2005-0161-0948    | Forest Agricultural Sector Optimization Mode (FASOM) Results for Lifecycle GHG Analysis | I Memorandum to the docket briefly describing the FASOM model results spreadsheet.            |
| EPA-HQ-OAR-2005-0161-0948.1  |   | FASOM results for lifecycle GHG analysis  |
| EPA-HQ-OAR-2005-0161-0949    | Winrock Land Use Change Emissions<br>Results  | Memorandum to the docket briefly describing the Winrock results spreadsheets.                 |
| EPA-HQ-OAR-2005-0161-0949.1  |   | Argentina land use change emissions factors   |
| EPA-HQ-OAR-2005-0161-0949.2  |   | Brazil land use change emissions factors  |
| EPA-HQ-OAR-2005-0161-0949.3  |   | China land use change emissions factors   |
| EPA-HQ-OAR-2005-0161-0949.4  |   | EU land use change emissions factors  |
| EPA-HQ-OAR-2005-0161-0949.5  |   | EU land use change emissions factors (unintended repeat)                                      |
| EPA-HQ-OAR-2005-0161-0949.6  |   | Indonesia land use change emissions factors   |
| EPA-HQ-OAR-2005-0161-0949.7  |   | Malaysia land use change emissions factors  |
| EPA-HQ-OAR-2005-0161-0949.8  |   | Malaysia land use change emissions factors (unintended repeat)                                |
| EPA-HQ-OAR-2005-0161-0949.9  |   | Nigeria land use change emissions factors   |
| EPA-HQ-OAR-2005-0161-0949.10 |   | Philippines land use change emissions factors   |
| EPA-HQ-OAR-2005-0161-0949.11 |   | South Africa land use change emissions factors  |
| EPA-HQ-OAR-2005-0161-0976    |   | India land use change emissions factors   |
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| Document #                  | Title                                     | Description  |
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| EPA-HQ-OAR-2005-0161-0950   | Renewable Fuel Lifecycle GHG Calculations | A memorandum to the docket briefly describing the renewable fuel lifecycle GHG calculation spreadsheets, which calculate GHG emisissions (all significant direct and indirect emisisons except for emissions from international land use change) per unit of renewable fuel. |
| EPA-HQ-OAR-2005-0161-0950.1 |   | Lifecycle GHG calculations for the Biodiesel Only Case   |
| EPA-HQ-OAR-2005-0161-0950.2 |   | Lifecycle GHG calculations for the Corn Only Case  |
| EPA-HQ-OAR-2005-0161-0950.3 |   | Lifecycle GHG calculations for the Import Only Case  |
| EPA-HQ-OAR-2005-0161-0950.4 |   | Lifecycle GHG calculations for the Low Corn Only Case  |
| EPA-HQ-OAR-2005-0161-0950.5 |   | Lifecycle GHG calculations for the Corn Stover Only Case   |
| EPA-HQ-OAR-2005-0161-0950.6 |   | Lifecycle GHG calculations for the Switchgrass Only Case   |