H. Daniel Sinks
Fuels Issues Advisor

3900 Kilroy Airport Way Suite 210
Long Beach, CA. 90806
Phone 562-290-1521
e-mail h.daniel.sinks@conocophillips.com

August 19, 2009

Clerk of the Board, Air Resources Board
1001 I Street
Sacramento, CA 95814

Via electronic submittal to: http://www.arb.ca.gov/lispup/comm/bclist.php

Re: **Low Carbon Fuel Standard (LCFS) – Modified Regulation Order - ConocoPhillips Comments**

Dear Clerk of the Board,

ConocoPhillips appreciates the opportunity to comment on this regulatory activity. ConocoPhillips is directly impacted as we will be a "regulated party" as defined by the regulation. ConocoPhillips owns and operates two refineries in the State of California. In addition, we have pipeline, terminal, and marketing assets in the State that distribute fuels produced at our refineries. We are a member of the Western States Petroleum Association (WSPA) and support the written comments submitted by WSPA.

ConocoPhillips has been engaged, and will continue to be engaged, throughout the regulatory development and modification processes. Our staff has participated in the workshop process, the "workgroup" process, participated in trade association (WSPA) meetings with ARB staff, has held individual private meetings with ARB staff, and has provided written comments at every regulatory milestone.

We have previously commented on many aspects of the developing regulation and will not reraise those issues here. The focus of these comments is to address the ARB's "Detailed California-GREET Pathway for Renewable Diesel from Tallow" dated July 20, 2009.

We recommend clarifying language regarding the description of tallow (page 2 of the document).

> "Tallow is beef fat produced during byproduct rendering. There are various grades of tallow. Those commonly referred to as technical and inedible tallow are the primary feedstocks used in this fuel pathway. The rendering of technical and inedible tallow involves different equipment and sources of energy. Technical tallow refers to that material rendered from trim fat and bones during animal processing. The technical rendering process includes grinding of the trim fat and bones, applying heat, and centrifuging to separate the fat from the solids and water. Technical tallow is qualified as edible tallow if the process is inspected by a United States Department of Agriculture (USDA) inspector. Inedible tallow rendering involves grinding and cooking of the animal byproducts (viscera, hooves, head, and other waste materials), evaporating water off through extensive heating (water content can be up to 60% by weight), and separating the fat from solids through screening and centrifuging. The rendering of inedible tallow is more energy intensive compared to that of technical tallow."

We also recommend the following clarifying language under the "note" item that appears on page 3 of the document.

> "Note: Removal of tallow for renewable diesel production from the market may lead to replacements for tallow in industries where it could have been traditionally used. It is important to note that cattle are not grown and processed for the purpose of generating tallow (rather they are grown and processed for meat). In terms of replacing tallow in current markets, according to USDA data, the majority of waste oils and tallow processed in the U.S. are used as animal feed. Future regulations may apply a ban on the use of tallow and other animal-based waste products (due to mad-cow and other similar diseases) for animal feed. It is likely that the use of inedible tallow as supplements in animal feed will diminish in the future. In addition, because of RFS2, USDA reports a growing amount of supply to the animal feed market resulting from increased production of DDG's, soymeal, etc. Based upon the above considerations, any indirect effects from diverting tallow from the animal feed market to manufacturing renewable diesel should be very small or insignificant regarding greenhouse gas impacts. That said, staff will continue to assess the unintended effects of removing tallow from the market for renewable diesel and will make appropriate adjustments to the analysis if warranted.

Our final comments relate to co-product allocation issues regarding the use of tallow for renewable diesel production. The animal rendering process produces tallow (technical and inedible) as well as an animal feed supplement called meat and bone meal (MBM). Technical tallow is produced using a different set of procedures and equipment. Inedible tallow and MBM should be considered co-products in the analysis. The ratio of MBM to inedible tallow is approximately 7 to 3 by weight. Therefore, the total energy input and the associated greenhouse gas (GHG) emissions should be allocated between MBM and inedible tallow. It is unclear in the ARB document how the allocation was handled. For example, Table 1.01 presents the average energy consumption of inedible tallow rendering from seven processing facilities, which includes 28,813 BTU/gal thermal energy and 0.930 kWh/gal electricity. The associated GHG emissions for inedible tallow production (18.19 gCO2e/MJ) were estimated based upon these numbers.

We compared the energy consumption data in Table 1.01 to other values obtained from published literature. Our finding was that published data refer to total energy input in the rendering process, not for the production of inedible tallow alone. This suggests that the energy consumption data and GHG emissions in the rendering process have not been properly allocated between MBM and inedible tallow. Our conclusion is that the total GHG emissions for the tallow RD pathway are overestimated. A second issue related to Table 1.01 is the unit of measure (BTU/gal). It is unclear if the unit is BTU/gallon to produce a gallon of biodiesel or a gallon (equivalent) of tallow; please clarify.

Please feel free to contact me if you have questions regarding our comments.

Sincerely,

<H. Daniel Sinks>