EarthWorks Letter to the Reserve
June 3, 2011

The following are our proposed modifications to the Organic Waste Digestion Protocol draft version 2.0, May 2011:

· Section 3.3.1 Box: "Eligible Organic Waste Streams" – First bullet should also include "livestock mortality and pre-consumer livestock processing wastes" including: a) from animal mortalities from farming operations if such mortalities are disposed of under anaerobic conditions, including landfilling, composting and burying on farmlands as allowed by federal and state laws and regulations; and b) from animal rendering operations' wastes that are disposed of under anaerobic conditions, including landfilling, that do not incorporate methane capture and control technologies. Note that in Iowa, there are truly three forms of disposal: the first two are buried or composted on farmland and the last is removed by renderers. Approx 40% of mortalities are either buried in trenches or composted on farmers' land, with the balance rendered, with a very small and an almost negligible percentage of carcasses being landfilled. Renderers cannot use contaminated portions of mortalities; this includes intestines. In addition, the proportion of wastes that renderers cannot take or use (category b) is expected to increase due to the 2009 introduction of USDA cattle regulations (Prohibition of the Use of Specified Risk Materials for Human Food-USDA FSIS 9 CFR Parts 309, 310, and 318) governing the use and disposal of brains, eyeballs, spinal cords, tonsils and other high-disease risk parts from animals older than 30 months, parts of all cattle, and non-ambulatory cattle by renderers. This USDA regulation will increase the volume of livestock mortalities disposed of on farmlands and rendering waste disposed of in landfills in many states including Iowa and South Dakota, as renderers will be subject to greater regulation and incur higher costs for processing (see for example, the article at http://www.plattevalleylivestock.com/News_Bulletins/news_bulletins.php, which suggests a move to more on-farm disposal of mortalities).

· Table 4.1 should be modified to include the above two sources of emissions

· Section 5.1 should be expanded to include the 2 sources of baseline methane emissions and eligible emission reductions that are subject of this communication (a and b above).

  o For estimating baseline emissions, data on mortalities and burials can be obtained from sources and resources such as summarized in the attached spreadsheet with calculations of burials in Iowa and NW Iowa, which are based on data from USDA and local data/information sources. The Iowa State University Extension service have indicated that they will provide additional data and support as needed, as they are actively seeking to reduce the already high proportion of mortalities that are currently buried in farmlands.

  The emissions factors associated with the disposal of mortalities in the baseline case can be estimated using: i) local landfill and composting emissions factors, as has been done by Det Norske Veritas (DNV) for mortalities (see estimate by DNV of emissions associated with the disposal of chicken carcasses at a landfill in Virginia in an attached Carcass Disposal study by the National Agricultural Biosecurity Center Consortium, USDA Project, 2004[1] -) or data gathered specifically from measurements of methane from livestock disposals where available, such as

[1] Carcass Disposal: A Comprehensive Review National Agricultural Biosecurity Center Consortium USDA APHIS Cooperative Agreement Project Carcass Disposal Working Group August 2004

the attached; and ii) SCAQMD and/or other applicable/relevant sources for composting organic wastes. Local emission factors should be used, and -- if not available -- default USEPA or IPCC or other credible, verifiable data should be used.

o Data on rendering operations' waste disposal volumes can be obtained from rendering operations and from trucking manifests including: the volume of mortalities delivered to renderers and information given by renderers on the volume of livestock that they do not use and/or process and their disposal practices. For rendering wastes that are disposed of in landfills, emissions from the disposal of rendering wastes can be calculated using the applicable emission factor(s) averages; if no livestock-specific data is available.

· Section 6 should be expanded to enable monitoring of the two sources of waste that we are recommending be included as eligible feedstocks for anaerobic digesters. As recommended in 6.1.1, trucking manifests can be used, along with the weights of eligible mortalities that have been buried and/or composted in the past, and eligible rendering wastes that have been disposed of under anaerobic conditions, and emissions factors that are based on local/regional conditions (as per the Protocol). Table 6.1 (under Section 6.3) Project Monitoring Parameters should be modified accordingly.

Please review the attachments for details and supporting data to include the significant volumes of livestock mortalities and rendering wastes that are being currently being disposed of under anaerobic conditions and consequently are currently generating methane emissions. These sources of waste should be eligible for inclusion in the protocol, especially with the USDA 30-month rule coming into effect, which will reduce the demand for mortalities by rendering services and increase the demand for on-land (anaerobic) disposal of mortalities in major farming states. This is an issue brought up by county feedlot officers, as well as by officials within the USDA, as an issue that they would like to address and solve. We would be pleased to engage the USDA on this issue if needed.

We continue to gather additional information and data on the disposal of mortalities and unusable rendering wastes and associated emissions. For example, the University of Iowa provided to us, only yesterday, data that indicates that the emissions factor from the anaerobic disposal of mortalities may be higher than that for municipal solid waste. We will review this data, as well as references in the attached Carcass Disposal Study[2] and other information and work with the Iowa State University Extension service and the USDA to perfect the formulae for calculating the baseline emissions and the project emissions, and provide those to CAR by August 14, 2011, or earlier if necessary.

[2] Regarding the gaseous by-products produced from the decomposition of animal carcasses, one report estimated the composition would be approximately 45% carbon dioxide, 35% methane, 10% nitrogen, with the remainder comprised of traces of other gases such as hydrogen sulfide (Munro, 2001). Although this report suggested that the methane proportion would decrease over time, with very little methane being produced after two months, a report of monitoring activities at one of the UK mass burial sites suggests that gas production, including methane, increases over time, rather than decreases (Enviros Aspinwall, 2002b).