Testimony in Opposition to SB2174

Prepared by Randy Coon

Chairman Beltz and members of the House Agriculture Committee, I would urge a "Do Not Pass" vote on this bill. This "Odor Bill" is an unproven and untested simulation model that should not be passed into law without further testing and evaluation. First and most importantly, odor implies something that is unpleasant. However, this bill is dealing with the gases that are constantly produced and distributed into the atmosphere from Animal Feeding Operations manure pits and lagoons. These gases not only have an odor, but also include the toxic chemicals hydrogen sulfide, methene, ammonia, and carbon dioxide. These gases are not only harmful to the atmosphere but also present serious human health risks. Installing a simulation model to determine setbacks for an Animal Feeding Operation should not be attempted until it has been thoroughly evaluated and tested. I have not seen the methodology used to develop this model, but my understanding is it is basically a wind rose model. This simulation model is much too simplified for the complex problem it will be tasked to solve.

I have been involved in developing simulation models, and typically, the more variables included in the analysis the better the model replicates real-world situations. The "Odor Model" basically includes two variables: wind speed and wind direction. Let me give an example of how more variables produces a better simulation model. If you wanted to develop a model to project North Dakota population, using a regression equation with the historic annual populations could determine a formula to predict population. Different regression equations could be tried until one produces a satisfactory **R squared** coefficient. This model would only use one variable but would produce population projections, although, the projections may not be very accurate. A more accurate model to predict population projections is a cohort survival model. Data in the model would include: county (or subcounty) population numbers by gender and age cohort; mortality rates; birth rates; and, in-migration and out-migration rates. Because of the extensive data involved in this simulation model, the expected accuracy would be much greater than using a simple regression equation. Using this example, the wind rose model with only wind direction and wind speed is unlikely to produce adequate distances for Animal Feeding Operations setbacks.

If an "odor simulation" model is to be used to determine such an important measure as setbacks for an Animal Feeding Operation, it must include atmospheric, geographical, topographic, and medical data variables. These data could greatly affect the results the model would produce. Atmospheric variables should include such things as temperature, humidity,

fog, rain events, cloudy/sunny days, and temperature inversion. It is also important to look at the land elevations, roads and highways, buildings, trees, and rivers/streams. Medical information must be included because of the potential health problems caused by the exhausted gases from an Animal Feeding Operation. Medical studies can be used to determine distances the toxic chemicals can affect persons with health concerns. Persons with asthma, COPD, MRSA, and cardio-vascular disease are at the greatest health risk from the gases exhausted from the Animal Feeding Operation. An inventory of medical problems for residents living near the proposed siting area could prove very beneficial.

The ”Odor Bill” as it is presented is inadequate for the task it is supposed to do. In my opinion, this model needs to add a significant number of pertinent variables to be of any value for setback determination. The importance of getting the proper setback distance can not be understated. Environmental and health concerns should not be the overlooked when locating these facilities. Further study and model development must be undertaken before an “Oder Simulation Model” can be applied to setback determination with any degree of confidence.

Please vote NO on SB2174. Thank you.

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