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W-99-18 NODA Comment Clerk  
Water Docket (MC-4101)  
USEPA  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

Subject: Standards for the Use or Disposal of Sewage Sludge: Notice of Data Availability (67 FR 40553-40576)

Dear Comment Clerk:

The Wisconsin Department of Natural Resources appreciates the opportunity to comment on the above referenced Notice of Data Availability (NODA). Wisconsin became the fourth state to obtain delegated authority to implement the biosolids program, in July 2000. We have been pursuing the development of risk based soil criteria values for total PCBs for the last three years and therefore have an especially keen interest in your effort. As such, we respectfully submit the following comments as requested in the NODA:

1. **The significance of the differences in dioxin concentrations in sewage sludge measured at facilities with wastewater flows greater than one MGD versus concentrations measured at facilities with flows less than one MGD.**

It seems that the small sample size may preclude an assessment of the significance in differences between small and large facilities. This is further addressed in comment 11.

2. **The significance of the differences in dioxin concentrations measured by EPA in 2001 versus the 1988 National Sewage Sludge Survey (NSSS).**

Both the EPA and the associated AMSA database show generally lower concentrations of dioxin today than in previous surveys. This may in large part be due to lower detection levels obtained today because of better analytical methods than were available in the past. This reduces the impacts of non-detect samples regardless of how they are handled (at zero, 1/2 the detection limit, or at the detection limit). It is very difficult to gauge the significance of the differences however because PCBs were not analyzed in the earlier surveys. Nonetheless, the lower levels for both dioxins and PCBs that were found, should be expected because of the elimination of many dioxin sources, such as medical incinerators, and the combination of time and degradation of PCBs since their use and production were banned in the late 1970's.

3. **Choice of the highly exposed farm family as the modeled population for the revised risk assessment and the assumptions related to this choice of modeled population.**

The use of a probabilistic approach for risk assessment is to be commended. This is also consistent with the recommendations of the newly published report by the National Academy of Sciences (NAS), which reviewed the federal biosolids regulations. However, it appears that EPA still used a Highly Exposed Individual (HEI) to define the modeled population rather than the NAS recommended Reasonable Maximum Exposure (RME) receptor. As the NAS report states on page 142, "For some exposure pathways, the use of more than one or two upper-bound exposure parameters might result in exposure estimates with no reasonable expectation of occurrence. Thus, the impact of multiple conservative assumptions must be evaluated carefully. ...." Especially suspect is the notion that every farm in America has an internal downstream fishing pond which the farmer has polluted with dioxin laced biosolids.

**4. All of the assumptions related to exposure, fate and transport used in the revised risk assessment, including the specific assumptions related to the farming and grazing practices used by the modeled farm family.**

The use of the mean consumption values as recommended in the Exposure Factors Handbook for home gardeners is appropriate. However, to assume that such farmers utilize their entire farm for such purposes and in addition to raising all of their produce in such an environment it is also assumed that: they raise dairy and beef cattle using direct grazing half of the time; have free range poultry in the buffer area; ingest soil; and consume fish from contaminated waterbodies. This contradicts how biosolids are used in practice. As stated in the NAS report on page 66, less than 1% of biosolids amended land is used for the production of unprocessed food-chain crops.

**5. The treatment of non-detects in the revised risk assessment and the effect on estimating risk.**

Due to the excellent analytical methodology used in the 2001 dioxin survey, the use of zero, 1/2 the detection limit, or the full detection limit for non-detects appears to have minimal impact. However, we should note that Wisconsin uses zero when concentrations are not detected.

**6. The assumptions and values used to estimate how much dioxin are being transported to individuals in the modeled farm family (e.g. sources [store bought versus farm produced], types and dioxin contamination levels of poultry feeds.)**

See comments 3 and 4.

**7. The methodology and data used for the screening ecological risk assessment (SERA) and the results derived from it.**

No comment as we were not able to fully review this section of the TSD.

**8. The significance of the finding that setting a 300 ppt TEQ limit would make no detectable difference in the risk of cancer to the highly exposed farm family.**

This seems to be a function of the distribution of results from the 2001 survey in that very few samples were above 300 ppt TEQ. Thus, there would not be a significant impact from imposing such a limit. It should be noted that whatever limit is imposed, it should be risk based using modified input variables for the RME receptor.

**9. Taking no action with respect to regulating dioxins for land application.**

Even given the conservative assumptions used to predict chronic effects from dioxin compounds in land applied biosolids, it is estimated that at worst an additional 0.45 cancer cases would occur over a 70 year

life for a person in the modeled population. This translates into an annual increase in cancer cases of 0.006 for this population. This would result in far lower risk to the general population. Further regulation would be difficult to endorse on a purely risk basis. However, further clarification is requested on why the acute effects of some of the other 197 PCB congeners were not considered. At the least, a clarification should be included in the preamble regarding the basis for including only the co-planar PCB congeners and excluding all others.

**10. The proposed monitoring schedule and the threshold concentration of dioxin that would allow for less frequent monitoring, and specifically, on whether other schedules which would require more or less frequent monitoring would be more appropriate.**

Monitoring is central to any decision or regulatory scheme with respect to dioxin. We support a tiered approach as originally proposed whereby annual monitoring would be required for any facility with concentrations between 10% of the limit value and the ceiling limit (which should be risk based). What the limit is may change based on revisions to the risk assessment and the dioxin reassessment, if finalized, or there may not be any limit at all imposed. Nevertheless, Wisconsin believes monitoring should be required in any event so that informed future decisions can be made and to provide credibility for any action the agency takes or to modify that action in the future based on sufficient data. If a limit is imposed, we support requiring annual monitoring if total TEQ results are between 10% of the limit and the limit. This should be for all facilities regardless of size. If the results are less than 10% of the limit, then a monitoring frequency of once every 5 years would be appropriate. Some flexibility to exempt very small facilities (less than 0.1 MGD) may be appropriate.

**11. Excluding small entities from the limit for dioxins in sewage sludge to be land applied.**

Small facilities may have dioxin sources and even though the quantity of land applied biosolids may be small, the impact to a specific location may not be insignificant. Therefore small entities should not be excluded from regulation. Some special consideration may be reasonable in terms of reduced frequency of monitoring for small facilities after sufficient data has been collected to show they have low levels of dioxin but they should not be outright exempt from regulation.

**12. A methodology to assist communities in voluntarily identifying and reducing or eliminating sources of dioxins entering wastewater treatment plants that contribute to elevated levels of dioxin in sewage sludge.**

Wisconsin fully supports an effort to identify and eliminate any sources of dioxins into a sewerage system. We further support both concepts identified in the NODA as possible implementation strategies. To look for known dioxin sources that may be tributary to a system and to compare dioxin concentrations as a "fingerprint" with known sources that generate similar "fingerprints", are both excellent approaches. We endorse EPA as a facilitator of this approach with states and local municipalities as partners.

Please feel free to contact Greg Kester of my staff with any questions or comments at 608-267-7611 or at [kesteg@dnr.state.wi.us](mailto:kesteg@dnr.state.wi.us)

Sincerely,

Al Shea - Director  
Bureau of Watershed Management