VIRGINIA BIOSOLIDS COUNCIL

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March 2, 2016

Ms. Margaret Quigley
13901 Crown Court
Woodbridge, Virginia 22193

EMAIL: margaret.quigley@deq.virginia.gov

RE. Synagro Central, LLC. has applied for a VPA Permit to replace their existing VDH Biosolids Use Regulation Permit No. VDHBUR 077, that would authorize the land application of biosolids and water treatment plant (WTP) residuals.

Dear Ms. Quigley:

During the public hearing regarding this permit application at the Louisa County High School there was a great deal of discussion of pathogens, and some members of the public raised questions as to whether other emerging contaminants were harmful to people, animals and the environment when biosolids was applied to agricultural or forested lands.

The Virginia Biosolids Council was established to provide factual information on biosolids to individuals – citizens and others. A transparent public process should allow individuals the right to provide their perspective – however it is our belief and the purpose of this correspondence to make sure facts, as opposed to emotion, are provided.

Regarding pathogens, EPA and VA regulations require management that prevents transfer of pathogens in Class B products to humans or the environment at levels of concern. There are exceptional quality Class A products being land applied in Virginia that provides further protection of all the environment, however EQ Class A is only better because it requires less management supervision to prevent risks.

Other biological concerns associated with land application of biosolids include antibiotic resistant bacteria, prions and aerosolized endotoxin. The presence of antibiotics and antibiotic resistant bacteria in biosolids is well documented, but risks from antibiotic resistant bacteria in soil amended with residuals are thought to be low *(Diversity of aerosolized bacteria during land application of biosolids, Brooks et al., 2007)*. It is important to note that SOILS are the original source of natural antibiotics and that all soils contain antibiotic-resistant bacteria. A report performed by the U.S. Geological Survey (23) summarizes the analysis of thousands of soil samples collected across the United States.

There are research studies on some of the PPCPs that seem to indicate little cause for concern, but

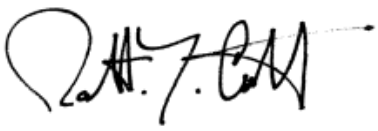
some scientists continue to question the use of biosolids due to a “what if” factor.

Risks from polybrominated diphenyl ethers (PBDEs) and estrogenic compounds contained within land applied biosolids were recently evaluated *(Fate of Endocrine Disruptors Following Long-Term Land Application of Class B Biosolids and Risks to Public Health, Quanrud et al., 2010)* and found to be low. Instead, the primary risks to human health associated with these compounds are related to direct household exposure from dust. Concentrations of PBDEs, for example, are much greater in household dust than in municipal biosolids *(Polychlorinated naphthalenes in human adipose tissue from New York, Johnson-Restrepo & Kannan, 2009)*. While endocrine exposure is one area where more research is needed, it is not evident that land application of residuals is a major source of such exposure.

Scientists continue assessing biosolids constituent risk today, as evidenced by the active work of the W3170, a multi-state workgroup composed of representatives of the U.S. EPA, the U.S. Department of Agriculture, universities, and municipal governments from across the U.S. that is conducting research on understanding the potential hazards and value of constituents in biosolids and other residuals. In fact, under the Clean Water Act, Section 405(d)(2)(C), the EPA is required to conduct a review of the 40 CFR Part 503 standards for biosolids not less than every two years for purposes of regulating new pollutants where sufficient data exist.

Biosolids will always bring with it some challenges; however it is imperative and critical that the use of strong science be the foundation for the beneficial use of biosolids. And to this point, despite the continuing dialogue expressing concern about the ‘state of the science”, the science supports the beneficial use of biosolids in agriculture and on forestland.

Regards,



Robert G. Crockett

VIRGINIA BIOSOLIDS COUNCIL

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June 13, 2016

Mr. John Thompson
Va. Department of Environmental Quality
13901 Crown Court
Woodbridge, Virginia 22193

EMAIL: john.thompson@deq.virginia.gov

RE. Synagro Central, LLC. has applied for a VPA to replace an existing VDH BUR Permit No. VDHBUR 112, that would authorize the land application of biosolids and water treatment plant (WTP) residuals

Dear Mr. Thompson:

Recently a representative of the Virginia Biosolids Council attended the public hearing regarding this permit application at Madison High School. While there were speakers supporting the land application of biosolids, there were also citizens who raised questions regarding the potential impact of the land application of biosolids to people, animals and the environment.

The Virginia Biosolids Council exists to provide factual information on biosolids to individuals, state and local officials and others. This correspondence is intended to provide further information regarding some of the comments provided during this public discussion.

During the public hearing there were comments regarding general concerns about biosolids as it relates to health – of humans, animals and the environment.

In a report by a team of researchers of national stature, who convened a national expert conference to examine the sustainability of land application of biosolids and manures ("Sustainable Land Application: An Overview", O'Conner, Elliott, et al. 2005), the researchers concluded: "To date, no case of pathogen-related health effects from biosolids has been documented." A research study, "*Detection of Aerosolized Endotoxin from a Land Application of Biosolids Site"*, showed that endotoxin levels were at background levels at a distance of 100 meters (325 feet) from land application, and even at the point of application were within recommended guidelines for occupational exposures (Brooks, Tanner et al. 2005).

In 2007 the Virginia Department of Health published a study by three respected epidemiologists, "Health Effects of Biosolids Applied to Land: Available Scientific Evidence" (Jenkins, Armstrong et al.). This study represented an exhaustive review of the current scientific literature about biosolids and human health. The primary conclusions were as

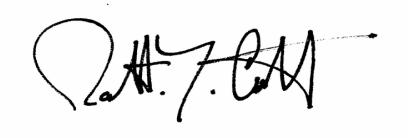
follows: "… there does not seem to be strong evidence of serious health risks when biosolids are managed and monitored appropriately. Human health allegations associated with biosolids usually lack evidence of biological absorption, medically determined human health effects, and/or do not meet the biological plausibility test." This literature review was updated in 2014 by the Virginia Department of Health and the same conclusion was reached.

While there wasn't specific mention of polybrominated diphenyl ethers (PBDEs) at this meeting, it has received some previous attention. This was recently evaluated ("Fate of Endocrine Disruptors Following Long-Term Land Application of Class B Biosolids and Risks to Public Health", Quanrud et al., 2010) and found to be low. Instead, the primary risks to human health associated with these compounds are related to direct household exposure.

Scientists continue assessing biosolids constituent risk today, as evidenced by the active work of the W3170, a multi-state workgroup composed of representatives of the U.S. EPA, the U.S. Department of Agriculture, universities, and municipal governments from across the U.S. that are ~~is~~ conducting research on understanding the potential hazards and value of constituents in biosolids and other residuals. In fact, under the Clean Water Act, Section 405(d)(2)(C), the EPA is required to conduct a review of the 40 CFR Part 503 standards for biosolids not less than every two years for purposes of regulating new pollutants where sufficient data exist.

Biosolids will always bring with it some challenges; however it is imperative and critical that the use of strong science be the foundation for the beneficial use of biosolids. And to this point, despite the continuing dialogue expressing concern about the 'state of the science', the science supports the beneficial use of biosolids in agriculture and forestland. Therefore, on behalf of the Virginia Biosolids Council and its membership, with this letter, we fully support the approval of the permit referenced above as submitted.

Regards,



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