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July 12, 2010

Mr. Allen L. Knapp
Director, Division of Onsite Sewage and Water Services
Office of Environmental Health Services
Virginia Department of Health
PO Box 2448
Richmond, VA 23218-2448

Dear Mr. Knapp,

It is my understanding that you have begun consideration of amendments and changes to the Virginia Department of Health (VDH) emergency regulations governing alternative on-site septic systems (AOSS) preparatory to publishing draft final regulations for public comment this fall. As a member of the "informed stakeholder community" mentioned in your June 3, 2010 cover memo (*Guidance Manual: Emergency Regulations for Alternative Onsite Sewage Systems*), I would like to provide some insight and thoughts for those future regulations.

First, I was very pleased to see in your memo a commitment to "an informed stakeholder community" and "an accurate inventory of systems." In November 2008, the Loudoun County Board of Supervisors adopted regulations requiring that any owner of an alternative on-site septic system arrange for an annual inspection of their system and provide the results to the local office of the Department of Health. The first annual inspection occurred in 2009 and a summary of findings from those inspections was delivered by the Loudoun County office of the Virginia Department of Health (VDH-LC) to the Loudoun County Board of Supervisors on December 16, 2009. I have enclosed a copy of their presentation to the Board and I would appreciate it if you would see that these findings are entered into the public record.

In particular, I would draw your attention to the fact the rates of failure and failure to function as designed were far higher than anyone in Loudoun County government expected:

- 25 systems (2%) "Failed" (Effluent on the Ground) / Category 4
- 225 systems (21%) "Not Functioning as Designed" / Category 3
- 304 systems (29%) "Need Minor Modifications" / Category 2
- 514 systems (48%) "Functioning as Designed" / Category 1

I would note that 37 owners would not allow their systems to be inspected -- even in the face of significant fines and possible litigation – and are simply uncounted in the results. However, I think it quite reasonable to suspect that additional problems may be likely in these uninspected systems. I would also point out that the definition of failure used by VDH is very narrow. To my mind (and that of most homeowners), any system that is not functioning as designed has failed. It is nothing less than

shocking to discover that less than half of the systems actually function as designed. A study undertaken by Fauquier County (also enclosed) showed similar results.

Consider the ramifications for the County's drinking water and its residents' health, especially given that these extremely high rates of failure and near-failure are in systems that are typically less than five or six years old. What will these failure rates look like when these systems reach 10 to 15 years old or when the installed inventory statewide reaches tens of thousands rather than several thousand? Who will be responsible for the expensive repairs and replacements (assuming the soil and available acreage support repair or replacement)? These are all questions that were not truly addressed in the emergency regulations and need to be addressed in the final regulations.

More specifically, I would request hat the permanent regulations better address the following:

1. Responsibility and Liability. The emergency regulations clearly require a homeowner to have their AOSS inspected by a professional operator and to have a "relationship" with a professional operator. The regulations are unclear as to what constitutes a "relationship" beyond a statement that a "relationship" does not require a contract. This is unclear and appears to be an attempt to absolve the operator of any and all liability with regards to a system's performance. It would seem that the emergency regulations are establishing the amateur homeowner as the sole responsible party for the performance of a complex, sophisticated piece of equipment, while alleviating the professional designer, installer, and/or inspectors of any responsibility. .

   Given the fact that frequently the cause of the breakdown cannot be determined, this is highly problematic. In Loudoun County, we have had situations where the engineer designed mound systems smaller than required by the original specifications (a design error), where the contractor installed the system mechanism on top of an underground spring, where homeowners used too much or too little water. In each case, liability clearly lay with a different party. In each case, however, fingers were pointed in all directions. The permanent regulations need to clearly define who is responsible when and for what reasons.

2. Who Pays? A failed AOSS is not a trivial problem. In Loudoun County, we have seen homeowners face AOSS repair and replacement costs from $25,000 to $50,000. An unplanned repair bill of this magnitude is virtually impossible for most homeowners to pay without financial assistance. And, in the current market where so many mortgage holders are "upside down," it can be impossible to obtain an additional loan to pay this cost. Oftentimes, liability is cloudy and requires months of meetings to determine who is at fault. In the meantime, the system continues to malfunction with the potential to create environmental and public health problems.

   In order to prevent these costs from falling back onto the County — and thus the taxpayer — and to accelerate the time frame for repair while liability is determined, some mechanism must be found to "insure" future repair and replacement costs. This could be some form of payment bond or a sufficient fee paid into a State revolving fund that could be used to pay such large costs. Without some funding mechanism in place, the permanent regulations expose both the state and local governments to huge future liabilities as residents demand extension of municipal utilities and the clean-up of polluted areas at tax-payer expense.

3. Sampling Timeline. As noted above, I consider the VDH definition of "failure" far too narrow. Are systems designated "not functioning as designed" still contaminating soil or groundwater even if there is no sewage on the ground or in the house? Given the significant numbers of systems installed in poor soils and environmentally sensitive locations (wetlands, steep slopes), this is a key question.

   The emergency regulations require that the owner of a small AOSS submit a "grab sample of the effluent from the treatment unit and have the sample analyzed" within the first 180 days of operation and every five years thereafter. Based on the County's experience, where problems occur during the first three years without notice by the homeowner and the use of these systems in environmentally sensitive locations or where soils do not perc, such a timeline is far too optimistic and provides little confidence that a problem will be caught prior to any pollution occurring. The permanent regulations need to increase the frequency of sampling during the first five years of operation.

4. Groundwater Protection. On-Site Septic systems, whether conventional or alternative, are typically installed where public utilities do not exist. Thus, such systems are frequently used in areas where residents draw their drinking water from wells. As a result, groundwater protection is critical in these areas.

   The emergency regulations state that "The AOSS shall not pose a greater risk of ground water pollution than systems otherwise permitted pursuant to 12VAC5-610-20 *et.seq*. After wastewater has passed through a treatment unit or septic tank and passed through the soil in the soil treatment area, the concentration of fecal coliform organisms must not exceed 200 cfu/100 ml at the lower vertical limit of the project area of the boundary." (12 VAC5-613-70-11). However, the emergency regulations also direct hat "All effluent samples must be taken at the end of all treatment, prior to the point where the effluent is discharged to the soil treatment area." (12VAC5-613-80-B) The sampling tool does not seem to provide the data necessary to determine whether or not pollution is occurring. Further, "Laboratory sampling is not required for AOSS designed to discharge septic tank effluent to the soil treatment area." (12VAC5-613-80-A) How will the performance of these systems be tested?

   As I read the emergency regulations, the intention seems to be that specific testing and sampling requirements will be determined in the individual Operation and Maintenance Manuals submitted to the local Health Department office prior to the issuance of an operating permit. However, there are thousands of these systems already operating (and which will continue to operate) without such a manual. Further, given VDH dependence on manufacturer documentation, it is not clear that such manuals will result in appropriate requirements.

   The permanent regulations need to ensure that sufficient and appropriate testing occurs to protect groundwater standards and provide an alert to potential problems at the earliest possible moment. VDH also need to ensure that baseline O&M Manuals for each type of AOSS are thoroughly researched and recommendations tested by an objective third party.

5. DEQ Jurisdiction. In reading the June 9, 2010 *Summary of Public Comments and Agency Responses* I was struck by submission from DEQ regarding the potential jurisdictional conflict. As I noted above, AOSS are frequently used in areas where residents draw their drinking water

from wells groundwater protection is critical in these areas. Thus, I strongly support DEQ's recommendations and hope that you will include them in the permanent regulations.

Thank you for your attention to these concerns. I will continue to monitor and participate in this process as you proceed to subsequent drafts.

Best regards,

Jim Burton
Loudoun County Board of Supervisors
Blue Ridge District

Enclosures

cc: Loudoun County General Assembly Delegation
Dr. Karen Remley, State Health Commissioner
The Hon. Barbara Favola, Arlington County Board of Supervisors and State Board of Health
David Johnson, Director, Virginia Department of Conservation and Recreation
Valerie Rourke, Department of Environmental Quality
Ted McCormack, Virginia Association of Counties
Joe Lerch, Virginia Municipal League
Loudoun County Board of Supervisors