

Minutes of the September 11, 2001 Sewage Committee Meeting

Review of Previous Minutes

Blair Enman asked that the minutes correct the acronym to ACEC. The minutes will be revised to reflect this.

Closing the Ten Acre Exemption

Committee members had questions about the implementation and which lots would be affected. Anne Whiteley and Roger Thompson reviewed the proposal in the draft rules. New ten acre lots can be created without getting a state permit until two years after the effective date of the new rules. Ten acre lots created between July 1, 2001 and two years after the effective date of the new rules have an additional year during which they can build one single family residence or associated water and wastewater systems without requiring a state permit. Starting three years after the effective date of the rules, any ten acre lot created after July 1, 2001 would be under state jurisdiction and would require a permit when a permit trigger was reached. The triggers include further subdivision, building a house, building or replacing a water or wastewater system or adding bedrooms to an already permitted project. Lots created using the ten acre exemption prior to July 1, 2001 would never require a permit for one single family home or associated water or wastewater systems under the current proposal unless the lot was further subdivided. Blair thought this was going a little too far in taking away an exemption a person used to create the lot but understood the need to prevent people from creating large numbers of lots just to beat the deadline which would not be built on for many years. The problems associated with lots created in 1969 to beat the deadline that we are still dealing with was acknowledged.

Design Flow

Roger reviewed a draft chart and table prepared based on discussion from the previous meeting. The concept was to take the existing curve used to convert percolation rates into per square foot of leachfield loading rates and to restrict the maximum loading rates to better reflect current knowledge. The design flow would be reduced by a percentage when multiple units would be connected to a single disposal system. The initial result was that systems in fast perc rate soils for systems serving multiple units would be larger than the existing systems. It was agreed this approach did not reach the goal of reforming the way loading rates and design flow tables should be modified to better reflect current knowledge. David reviewed information from several projects he had worked on that suggest actual flows are much lower than design flows because few living units are occupied by 2 people in all of the available bedrooms. David felt that if the design flow remains somewhat conservative, the loading rate could be less so. Rich asked about changes in use over the years, citing the changes in use from newly built housing to housing constructed many years ago. Rich asked that any approach include some leeway to allow for normal variations.

The issue of requiring effluent filters was reviewed. Most felt that filters were useful though there was not a clear preference for making this a requirement. There is information related to the effect filters have on the organic loading that reaches the disposal field, with some reports saying there is a significant improvement and others suggesting there is limited improvement. There is probably not enough information to base any design changes. Roger said that a decision had not been made as to whether the Agency would push to require the filters.

David said this was one of his issues, in that the Advisory Committee could support some position and the Agency could just ignore it.

Rodney Pingree asked how the design flow changes would help Addison County. Roger explained that it would make little difference because the Addison County problem is limited hydraulic capacity in the dense soils. It might affect a few sites if the systems could be smaller.

David suggested that the maximum loading rate be reduced from 1.5 gallons/sq foot to 1 gallon/sqft and use the rest of the curve as is. He felt that if the design flow for multiple units of 3 bedroom houses used a design flow of 250 GPD the safety factor related to actual flows normally being less than 200 GPD would be sufficient to offset not lowering the maximum loading rate to the 0.75 – 0.4 gallons/sqft that current literature suggests. Blair said he liked the 250 GPD for a SFR fine except in places such as ski areas with high occupancy rates. David asked if the peak loading occurred for a couple of days or was a steady high rate. Blair indicated that normally this was a weekend situation with about three weeks of high intensity use in a year with the weeks separated from each other. David suggested that some sort of flow equalization could deal with the problem. There was some agreement with this concept though there were concerns about management and extra cost.

Lance suggested that many of these issues could be handled through management. If daily metering was required, action could be taken if the actual use exceeded the permitted use. Roger asked about how this would work when the site did not have any capacity to expand the disposal system. This might require someone to discontinue or reduce some uses and would be a normal consequence of not following the permit. People would know up-front what was required and would be expected to follow the requirements. Several people supported the concept of management as being a useful/necessary tool to deal with disposal systems, even if it was just a program to get people to check their tank and pump if needed.

Chris arrives.

Changes in the DEC Commissioner's Office

Chris Recchia has been promoted to Commissioner of the Department of Environmental Conservation. Chris said that he would not be able to be as involved with

the Advisory Committee as in the past but that he was still very concerned that progress continue on the rules. Chris said he would attend when he could and that he would continue to carefully follow what was happening and ensure the Department kept things moving. He said he would attend the public meetings that will be held around the state in October and that he would be involved in the sewage issues in the next legislative session.

Chris said he was concerned when he read the past meeting's minutes. He said that the planning component was a vital part of the process and any legislation that did not address the issue somehow would not be supported by the Administration. He said that he felt he had responded to the committee's desire to talk about what the site limitation changes would be by adding them to the rules with a requirement for time and resources for the towns and the Agency prior to implementation,

Chris urged the committee to "hang together" with a goal of accomplishing as much as possible. There is a concern that if there is not group support that less will get done, rather than more.

Minimum Isolation Distances versus Treatment Levels

Chris gave a short overview of how the Department had arrived at a decision to allow otherwise approvable advanced treatment systems that produced effluent of 30 mg/l BOD and 30 mg/l TSS or better to all be treated the same. The literature indicates a range of viral treatment but it all seems to be within about 1 log of what is expected in the sand filter systems currently approved. This serves as the basis of deciding all systems that reach the 30/30 level could be treated the same as sand filters, which is what is proposed in the rule changes. Chris said that he saw a role for systems with higher levels of treatment and even for use of disinfection in some situations, but not for individual systems. He mentioned that even municipal treatment plants, with full time operators, could not ensure that the UV disinfection systems would work at all times. Chris asked if the committee thought systems that did not depend on native soils for some significant portion of the treatment were practical and safe. He asked what happens when the system fails and it discharges effluent that does not meet the treatment levels required. Chris pointed out that with a municipal treatment plant there is a mixing zone, the affected water is not used for a drinking water source, and the river can be closed for contact use for a few days after which it will have regained its natural level of quality.

David responded that Phil Angell had approached him and said that he would be proposing some legislation that would impose requirements, including an oversight committee, and that this suggested that Mr. Angell and other legislators did not trust the Agency. David said he felt the Department should move more quickly in order to overcome this perception.

David suggested that there should be a risk management approach that would consider additional levels of treatment as justification for increases in loading rates and reduction of separation to water table. David then presented a chart that was modeled on

some work done by others. The chart proposed 7 categories of treatment, including five levels of effluent quality and nitrogen and phosphorus removal. The highest level of treatment required disinfection and proposed zero separation to the induced water table and ledge. The proposal includes additional maintenance and for disinfection 24/7 remote monitoring.

David said that he thought there was enough evidence based on use in other states to allow for reductions in separation to an induced water table and an increased loading rate. David said that several states allowed these concepts and in some cases allowed septic tank effluent to be applied at only 12" above the water table and there was no evidence of widespread illness or other problems.

Anne asked David if he was concerned about whether these changes were appropriate for homeowner use or if they should be limited to larger or more supervised systems.

David said he thought the systems could be used even at the homeowner level. He thought levels T1-T4 were certainly OK and that with the remote monitoring even the disinfection was OK. He said that some of the system needed management systems and for high level systems such as ones using disinfection there needed to be continuous oversight and qualified operators.

Chris asked about the damage caused during the time from when the system fails and the system makes the notification until the system is repaired.

David replied that all systems create risk. Some systems will surface or runoff into streams.

Rich noted that there may be a difference in the level of risk between a clearly visible surface failure that people will be aware of and can avoid to some degree and a discharge to a drinking water aquifer that may take a while to recover. Rodney added that recovery might be two years for viral die off based on current thinking. The Health Department representative was not present to provide their perspective.

Chris had to leave at this time.

Roger noted that the Department had not decided against allowing additional treatment levels or changes in isolation distances. It was a matter of not having time to work through each of the several decisions needed to make additional changes. David asked if Roger could support the changes through the T4 level. Roger replied that the difference between T3 which is essentially what is proposed in the new rules for filtrate disposal is that loading rates are nearly doubled and the separation to the water table is reduced by 50% based on an improvement from 30/30 treatment to 20/20 treatment for BOD/TSS and that Roger had not seen any information that suggested that this change in treatment levels had a direct correlation to an equivalent reduction in pathogens. David

agreed that there was little evidence to show a reduction in pathogens in relation to the proposed difference in treatment levels.

Anne asked how the committee members felt about the chart David had presented. Blair said he was ready to move forward based on the current information and would even support use of disinfection for failed system fixes. Lance said he was OK with T1-T4 and with disinfection for remediation but not for new systems. Justin said he would support T1-T4.

David again raised the issue of what to do if the Agency did not agree with decisions that a majority of the Advisory Committee supported. He is concerned that there isn't any place for an appeal and that maybe there should be some committee or board that can overrule the Agency.

Andrew Flagg and Anne asked about the effect of power outages on treatment systems. They said that even when the power was out they would bring water in buckets for toilet flushing. Did this create environmental harm?

David replied that the same problems occurred with mound systems. There is positive protection in most cases when pressure distribution is required, as it is for all treatment systems, because the pump to the disposal field won't operate. (note: siphon systems operate without power but are used in a small fraction of dosing systems)

Andrew and Anne had concerns about what happens when maintenance contracts are not maintained because poorly treated effluent would be discharged. There are concerns about Agency resources and would there be a way to make sure the systems operate.

Blair said that the Agency should not stop all progress just because the O+M could not be assured for every system. There was discussion of various ways to ensure O+M through management districts and operating permits. It was agreed this was mostly a matter of money as with sufficient resources the needed work could be done but that the cost had to be considered as part of the package when using treatment systems.

Other Issues

Blair asked if the design flow changes in sewage capacity would be mirrored in the water system rules. Rodney said they probably would not because the water system provided water for uses not related to the sewage disposal systems such as lawn watering and car washing. Blair said it was very awkward to explain to a group why there were two different numbers. Rodney volunteered to attend any meeting for public community water systems and make the explanation.

Septic tank sizing was discussed with several people supporting a minimum of 1500 GPD. David said the formula should be that the tank size should be twice the design flow with a minimum of 1500 GPD. This topic was discussed at an earlier

meeting and the tank manufacturers need to be involved because of the potential impact on their businesses.

Everyone agreed that the rules should not require indoor grease traps though the Plumbing Rules appear to require indoor grease traps. When needed grease traps should be outside. No one was aware of specific design standards that could be used to fashion a rule requirement but it was thought that Small Flows Clearinghouse would have some information. David suggested a performance standard, maybe 25 mg/l of oil and grease. This will need more research.

There was some discussion of how to deal with garbage grinders. There was agreement that they should be discouraged but probably could not be banned. There was agreement that if used the septic tank should be larger.

Next Meeting

The next meeting will be in the Nebraska Notch Room in the Osgood Building. The meeting will be 8:30- noon on Tuesday, September 25, 2001.

People Attending

Blair Enman
Richard Czaplinski
David Cotton
Andrew Flagg

Allison Lowry
Rodney Pingree
Marilyn Davis
Lance Phelps

Anne Whiteley
Justin Willis
Roger Thompson
Chris Recchia