

STATE OF MINNESOTA
POLLUTION CONTROL AGENCY

In the Matter of the
Proposed Rule Amendments
Governing the Individual Sewage
Treatment Systems Program,
Minn. R. Ch. 7080

MPCA
FINAL RESPONSE
May 17, 1999

DOCKET NUMBER: #12-2200-11927-1

On May 10, 1999, the Minnesota Pollution Control Agency (MPCA or agency) submitted its posthearing comments regarding the April 19, 1999, hearing record and related comment letters for the rule amendments cited above. That document contained some proposed changes to the proposed rules. In accordance with Minn. Stat. § 14.15, subd. 1, and Minn. R. 1400.2230, subp. 2, submits its final responses to the submissions of other persons. The attachment is the list of the comment letters that MPCA staff found in the official record at the Office of Administrative Hearings (OAH).

Each issue discussed in this response appears under its corresponding rule citation or is placed in the same location as in the Posthearing Comments. References to proposed rules are by pages and lines (e.g., RR1.22-24 means page 1, lines 22 through 24) of the rule certified by Revisor of Statutes on January 20, 1999. References to the Statement of Need and Reasonableness are by page number (e.g., S22). The 18 letters submitted during the hearing process as hearing exhibits are referred to by hearing exhibit number (e.g., E11) and references to the Posthearing Comments are by page number (e.g., PH23).

Changes proposed to the Revisor's January 20 version are shown in italics with a double underline for proposed additions and with cross-outs for proposed deletions. The abbreviations most frequently used in this document are: individual sewage treatment systems (ISTS), local unit of government (LGU), Statement of Need and Reasonableness (SONAR), Minnesota Department of Health (MDH) and Minnesota Pollution Control Agency (MPCA or agency).

Minnesota Pollution Control Agency (MPCA) Final Response, May 17, 1999 Minn. R. ch. 7080

7080.0020, subp. "new", subp. 54 and subp. 46a. Inner wellhead management zone and wellhead protection area. Agency recommended change and Minnesota Department of Health 3/30/99 letter, comment #1 and #2. RR19.16-21. RR18.4-8. S38-39. S41-42. L134.

COMMENT: A definition of an inner wellhead management zone should be added. Add "where the MDH has designated the aquifer supplying the public water supply well vulnerable to contamination under the provision of Minnesota Rules part 4720.5330."

CHANGE: Rule change proposed.

7080.0020 subp. "new." *Inner wellhead management zone.* "Inner wellhead management zone" means the drinking water supply management area for a public water supply well that does not have a delineated wellhead protection area approved by the Minnesota Department of Health under Minnesota Rules, part 4720.5330 and is the area within 200 feet of a public water supply well.

7080.0020, subp. 54. *Wellhead protection area.* "Wellhead protection area" means the surface and subsurface area surrounding a well or well field that supplies a public water system, through which contaminants are likely to move toward and reach the well or well field regulated under chapter 4720. For the purposes of this rule, wellhead protection area shall be that area bounded by the drinking water supply management area regulated under chapter 4720. If the drinking water supply management area is not delineated, the wellhead protection area shall be the inner wellhead management zone.

7080.0020 Subp. 46a. *SWF.* "SWF" means the following three categories of systems: systems constructed in shoreland areas; systems constructed in wellhead protection areas ~~or inner wellhead management zones~~ regulated under Minnesota Statutes chapter 103I; and systems serving food, beverage, and lodging establishments, including manufactured home parks and recreational camping areas licensed according to Minnesota Statutes chapter 327.

REASON: Accuracy. The MPCA concurs with the Minnesota Department of Health (MDH) that inner wellhead management zones should be incorporated into the proposed rule and that a definition be included. The definition of inner wellhead management zone is necessary because the MDH is required by federal law to implement a drinking water protection program through their rules. MDH's requirements apply to ISTS inspectors because of the different inspection criteria for wellhead areas.

For the proposed Chapter 7080 rule, the agency met with the MDH and established the drinking water supply management area (included in the wellhead protection area definition) because the delineation is clearly made through cross streets, section lines or other readily identifiable locations. Inspectors will easily know if they are inside or

outside of the wellhead protection area because of the clearly delineated boundaries. Maps are made available by the MDH as areas are delineated.

Additional comments made by the MDH during the written comment period suggested the addition of “inner wellhead management zone” to cover public water supply wells that are not delineated. Also, inner wellhead management zones represent the majority of wellhead protection areas. Discussions with Beth Kluthe and Bruce Olsen of the MDH this week assured us that inspectors will clearly be able to understand whether they are inside or outside of both the inner wellhead management zone and the drinking water supply management area, a big concern to the agency. Both areas will be identified on a state map and made available to inspectors by the MDH and MPCA. Many counties already have access to this information and website information will become fully available as well. It is reasonable to add this information to the rule to assure consistency between sister agencies and to continue efforts to protect groundwater.

The agency proposes to include the inner wellhead management zone as part of the definition of the wellhead protection area and delete the language proposed in the May 10, 1999, Posthearing Comments to be consistent with the requirements of Minn. Stat. § 115.55, subd. 5a (d).

Anton Schaefer 4/29/99 letter. E17. PH29-35, 139.

COMMENT: Deep concern if the sewer systems currently existing in Stevens County are no longer allowed because commenter states they work satisfactorily. Neighboring towns have open outlets. In 1939 he contracted polio and does not feel that it was the fault of sewer systems spreading germs. Polio shots are cheap and are doing a good job. Farmers have a severe financial struggle.

RESPONSE: No rule change proposed. Agency staff are highly empathetic to the commenter’s letter. However, no rule change is proposed for the reasons stated in the Posthearing Comments. Some options are offered for Stevens County to continue surface discharging within the Posthearing Comments. It should be highlighted that polio and other viral and bacterial disorders can be transmitted through improper ISTS discharge; that there are problems associated with a new generation of people who have not been impacted by plagues who are taking an apathetic approach to immunizations, and that we are clearly entering a time of antibiotic-resistant bacterial infections along with new viral strains. The agency believes very strongly in prevention, especially when reasonable technology is available at a reasonable cost. Funding options can be explored as suggested in the Posthearing Comments. Stevens County also has the option of working with the state legislature to increase funding for upgrade costs.

7080.0170, subp. 2 C (1) (a). Bruce Benson, Carlton County 5/3/99 letter. RR55.9-38 and RR56.1-38 with change proposed on RR53.22. S85-88. PH64-69. E18.

COMMENT: Mr. Benson does not believe allowing sizing by soil structure is appropriate. ISTS professionals do not have the training to do this; soil texture should be used. If this table remains in the rule, it should be allowed for use only by a Professional

Soil Scientist or should be allowed in a local ordinance if specifically accepted by the local unit of government.

CHANGE: Rule change proposed.

(a) Table V gives and Table Va specify the soil sizing factors used to calculate trench bottom area assuming six inches of drainfield rock below the distribution pipe. Incorporation by reference of this chapter does not include adoption of Table Va. If a local unit of government chooses to adopt Table Va, it must do so expressly. The local unit of government may use the following format: "Minnesota Rules, Table Va, is incorporated by reference into Ordinance...."

REASON: The agency has received numerous comments and concerns about implementation of Table Va. Mr. Benson is an ISTS Advisory Committee member who consistently presents well-considered concerns and provides possible solutions. In his 5/3/99 letter he again opposes the use of Table Va but recognizes that some parts of the industry support it. He provides a reasonable solution to keep Table Va without burdening LGUs that are limited in implementing its use. If Table Va is not adopted in an ordinance, little impact on soil treatment area sizing would result. Table Va will continue to be taught at the workshops and Designers and Inspectors will have a well-rounded understanding of soil texture and soil structure as a result. It is reasonable for the agency to allow the LGU to make the decision whether to adopt Table Va for flexibility.

Neil Schmidgall, Stevens County resident, 5/3/99 letter. PH29-35, 139. E19.

COMMENT: Asks for reconsideration of the proposal that all septic systems be closed (i.e., subsurface discharge only). The MPCA hasn't given adequate consideration to the rural community. Soils in that area will not allow dissipation of sewage underground. Have seen new systems fail without a surface outlet.

RESPONSE: Please see Posthearing Comments. It should be noted that effective systems designs are available for the soils in Stevens County.

Jim Wulf, Stevens County resident, 5/3/99 letter. PH29-35, 139. E20.

COMMENT: The proposed rule is making them change to an unproved system. Know of new systems that do not work properly. Why can't the sun purify the effluent? Manure lagoons must be built so no penetration into the soil; Chapter 7080 says sewage should penetrate the soil.

RESPONSE: Please see Posthearing Comments. The standard systems offered in Chapter 7080 are proven systems; the agency has volumes of research showing they provide reasonable protection if designed, installed and used properly. Manure lagoons are not built so there is no penetration in the soil; they are built to reasonably assure excessive leaching does not occur (designs allow 500 gpd/acre/day leaching). Please see the treatment discussion in attachments FR1 through FR 3.

Paul Lambrecht, Traut Wells, 5/5/99 Facsimile. PH18, 92. E21.

COMMENT: All systems should be monitored, including standard systems. The technologies allowed under the proposed rule are not “new” technologies, they have been around for a very long time and follow natural processes of nature. Prescribing “proven to fail” systems is clearly irresponsible.

RESPONSE: Please see SONAR and 5/10/99 Posthearing Comments. The agency assumes, based on research and experience, that little monitoring besides observations and routine operation and maintenance would be required for many systems (e.g., “other systems” using a 2-foot sand filter followed by 1-foot of soil). The more complex the system design, the more complex the monitoring. Some systems must be monitored to assure continued performance.

Byron Koehl, Stevens County citizen, 5/3/99 letter. PH29-35, 139. E22

COMMENT: Strongly opposes the requirement of the MPCA to make every individual add a drainfield or mound system to his septic discharge. There is no proof that what they have been doing causes a problem. The MPCA does not address costs. Knows of people with drainfields or mounds that back up into the house after only 6 months. What happens to these systems when it is 50 degrees below zero. Pump life expectancies are very short for manure pumps. Who will pay for upkeep and repairs. Do not support more taxes to add MPCA staff to go around and check everyone out. Let local people handle it themselves.

RESPONSE: Please see 5/10/99 Posthearing Comments. In the past ten years the agency has received very few complaints about mounds freezing. The agency has investigated many of the reports of mounds freezing and determined that all but two systems (maybe just one) were the result of freezing in the distribution pipe leading to the mound. Pipe freezing was due to improper installation of the pipe that resulted in the pipe sagging, which in turn resulted in standing water in the pipe that subsequently froze. Research conducted at the University of Wisconsin indicated that the core of the mound remains above freezing during the winter.

Performance of some types of systems may be slightly reduced if the effluent is exposed to cold conditions where biological activities slow (e.g., cold bugs don’t work as effectively); however, current research and research continuing for new technologies will continue to address cold weather conditions.

Pump life expectancies for sewage effluent pumps are typically 15 years or more. They typically are designed to pass up to 2” solids with rule requirements and designs being used to reduce even that size of solids from entering a pump tank (e.g., compartmented tanks, gas deflecting baffles, effluent filters, routine septic tank pumping, laundry lint filters, etc.). Manure pumps are under much greater stress due to larger diameter solids and they are often placed in locations that are difficult to access. Chapter 7080 requires easy access to pumps.

The MPCA has no plans to expand inspections by state personnel; local governments are required only to assure that new ISTS construction and replacement complies with local ordinances and to address existing systems only if a bedroom is added. The legislative mandate clearly is for local control.

Marcia Shepard, Focus 10,000 5/7/99 letter and copies of five Focus 10,000 issues. H23 and H28. PH133, 92, 109-120, 119, 61-62. E23.

COMMENT: The proposed revisions are numerous and hard for the lay person to understand. Relying on soil alone to remove nutrients and pathogens is an inexact science. The State should minimize the restrictions on new technologies. Are the same requirements of a 25-year structural design life and a 7-year soil treatment system design life applied to standard systems? Requiring 100 systems over a 7 year period should allow use of data from other states. The standard 10 ppm of total suspended solids, 10 ppm of biological oxygen demand and 200 fecal coliform colonies is considered safe for swimming beaches where direct human contact occurs. The legislature emphasizes local control; however MPCA should take a strong role in researching and establishing the standards. Local units of government do not have the expertise.

RESPONSE: Please see 1999 SONAR and 5/10/99 Posthearing Comments. Once the rule activities have been completed, the agency will then turn its efforts toward rule implementation activities. More specifically, the agency anticipates taking leadership in the implementation of performance specifications. The agency continues to meet with a statewide performance standards group whose focus has now turned toward implementation of performance standards. The group's current task is developing monitoring frequencies. The agency is scheduled to participate in a meeting on June 2, 1999, with 10 local units of government to discuss adopting and implementing performance standards at the local level.

The agency agrees that the removal of pathogens by soils is an inexact science. This is due to the following reasons:

- heterogeneity in the soil matrix (textural and pore size changes)
- variation in the soils' ability to absorb pathogens
- climatic changes (hot, cold, wet, dry)
- varying concentration of pathogens (depending on the health of the residents)
- variable die-off rates of pathogens
- variations in loading (peak loads, low flow, no flow)
- distribution methods (gravity, pressure, perforation size and spacing, dose volumes and frequency of doses)

Therefore to monitor a standard system would be difficult, and the collected data would be difficult to interpret. The agency depends on research to determine a system's ability to remove pathogens. This research is used, along with a generous safety factor, to develop standard designs. The agency believes that standard systems provide excellent treatment for pathogenic organisms. These standard designs depend on passive treatment by the septic tank and soil filtration. Performance systems will likely rely, to some extent, on the natural processes

described above, but will also likely use mechanical devices or non-researched devices to supplement treatment. Agency experience suggests that some proposers of performance systems will remove or reduce the safety factors used in the design of a standard system. This added complexity or uncertainty compels the agency to require monitoring to ensure that treatment takes place. The intensity of monitoring will be based on the deviation from known technology or the amount of research and testing the technology has undergone.

Harvey Koehl, Stevens County citizen. 5/10/99 letter. PH29-35, 139. E24.

COMMENT: Opposed to ISTS systems without a surface discharge. Greywater discharge from any small family unit is evaporated and filtered long before it flows into any waterways. The soil types do not allow water to percolate through them. Where is the health problem? Why can't a grass waterway dissolve and evaporate sewage rather than pump it, lift it, force it into something manmade? With manure pumps and anything mechanical you have problems.

RESPONSE: Please see responses within this document and the 5/10/99 Posthearing Comments.

Don Geiszler, Chairman -- Stevens County Pro-Ag. 5/4/99 letter. Attachments FR#1, FR #2 and FR #3. PH29-35, 139. E25.

COMMENT: Opposed to mandatory compliance with Chapter 7080 because of design inadequacies of ISTS. Mounds are expensive to build and maintain and completely plug up after a few years of operation.

RESPONSE: See 1996 and 1999 SONARs, the 5/10/99 Posthearing Comments and this Final Response document. The commenter makes statements that are contrary to research; a complete understanding of ISTS designs and soil treatment processes is necessary.

Randy Koehl, Wilson Company. Stevens County. 5/10/99 letter. PH29-35, 139. E26.

COMMENT: Opposes the proposed changes to Chapter 7080 requiring dwellings in rural Minnesota to have enclosed drainfields or mounds. Individual discharges in a filter strip are no different than each city in the area with an open discharge. Cost is prohibitive. Using "may" and "should" is not based on fact. Concerned that systems will fail in a short period of time. Each LGU should be able to make its own decisions.

RESPONSE: Please see 5/10/99 Posthearing Comments.

Ken and Karen Koehl, residents of Stevens County. 5/10/99 letter. PH29-35, 139. E27.

COMMENT: Oppose MPCA requirement for an enclosed drainfield or mound. Oppose MPCA coming into an area against county authority. Concerned about costs. Rainstorms or mechanical problems resulting in Twin Cities Sewage plant spills into the Mississippi River is much greater than if all sewage generated in Stevens County was dumped in the river for years.

RESPONSE: Please see 5/10/99 Posthearing Comments. Sewage spills from municipal sewage treatment systems due to heavy rainstorms or mechanical problems are not typical. Systems are designed for 10-year and 100-year floods with reliability, emergency procedures and mechanical system backups required (e.g., extra pumps, generators, etc.). Spill situations are unintentional and every effort is made to prevent and eliminate this problem. People are alerted to potential hazards if that is the case. The permittee is required to remedy the problem as fast as possible. It should be noted that during heavy rains there is significantly more dilution available. In addition, if remedies and fast actions are not taken, enforcement against permittees can occur.

7080.0010. Purpose and intent. Debbi Kinney, Pumpco, 5/10/99 letter. RR2.14-19. S9-10. E29.

COMMENT: Rule states “systems serving facilities not classified as dwellings are regulated by the US EPA as Class V injection wells....” Schools, restaurants, large auto dealers and any small business is included. Does not agree with the wide range that this rule encompasses. Suggests qualifications or different levels from small business to large.

RESPONSE: No rule change proposed. Code of Federal Regulations, title 40, parts 144 and 146, supersede Chapter 7080. Within those regulations, systems discharging more than 20 person’s flow or systems producing nondomestic waste are classified as Class V injection wells. The agency is aware of the commenter’s issue and is making the industry aware that the federal regulations exist (the regulations are partially complete, with some regulations posted for comments and some still not ready for public comment).

7080.0010. Purpose and intent. Debbi Kinney, Pumpco, 5/10/99 letter. RR2.20. S10. PH2-3. E29.

COMMENT: This is a duplicated comment from her 3/19/99 letter (comment #2).

RESPONSE: Ms. Kinney has previously been directed to the author of the paper she requests to eliminate the need for the MPCA to be placed in the middle of an information request.

7080.0020, subp. 11b. Definitions; Clean sand. Debbi Kinney, Pumpco, 5/10/99 letter. RR6.8. S16-17. PH5. E29.

COMMENT: Definition is not clear. Must refer to page 39 of the rule to fully understand what is required for clean sand.

RESPONSE: Please refer to Posthearing Comments at page 5 regarding 7080.0020, subp. 11b.

7080.0030, Subp 4. Administration by all state agencies. (Incorrectly referenced as 7080.0060) Debbi Kinney, Pumpco, 5/10/99 letter. RR24.11-15. E29.

COMMENT: Opposes language “use of systems designed under part 7080.0172, 7080.0178 and 7080.0179 for new construction or replacement of systems that serve

establishments licensed or otherwise regulated by the state of Minnesota is allowed only in areas where a standard system cannot be installed or is not the most suitable treatment.”

CHANGE: Rule change proposed.

*Subp. 4. **Administration by all state agencies.** Individual sewage treatment systems serving establishments ~~or facilities~~ licensed or otherwise regulated by Minnesota shall conform to the requirements of this chapter. Use of systems designed under part 7080.0172, 7080.0178, or 7080.0179 for new construction or replacement of systems that serve establishments licensed or otherwise regulated by the state of Minnesota Department of Health is are allowed only in areas where a standard system cannot be installed or is not the most suitable treatment and only where allowed and enforced under ordinance and permit of the local unit of government. Any individual sewage treatment systems requiring approval by the state shall also comply with applicable local codes and ordinances. Plans and specifications must receive the appropriate state and local approval before construction is initiated.*

REASON: The opposition to the requirement for the language for the MDH is justified in the SONAR and Posthearing Comments. The agency recommended change is necessary to specifically indicate that the restrictions placed on the use of “other systems” and “performance systems” are limited to those systems reviewed by the Minnesota Department of Health. Other state agencies have not expressed to the agency the desire to impose restrictions. Without this change the restrictions would apply to systems reviewed by the agency, and systems built on state land which are designed and operated by the Minnesota Department of Transportation or Department of Natural Resources. Under this proposed change, these agencies can best decide how to implement new technologies when needed or desired.

7080.0130 subp. 1 C. Sewage tanks. Debbi Kinney, Pumpco, 5/10/99 letter. RR35.9-11. E29.

COMMENT: Plastic tanks cannot meet the tensile and compressive strength requirements listed. Plastic tanks are not buried 7 feet deep; manufacturers recommend that they be buried at a maximum 30”. The rule is too prescriptive and disqualifies all plastic tanks.

RESPONSE: No rule change proposed at this time. The agency, in earlier drafts of this rule, proposed to remove the 7-foot strength requirement for septic tanks and proposed to require the tank to withstand the pressure at which it is going to be installed. The ISTS Advisory Committee voted not to delete the strength requirements and concrete manufacturers agreed that the deletion would lower the standard and indicated that lateral earth pressures in tight soils can collapse a tank. As a result, the January 20, 1999, Revisor copy did not remove the 7-foot or lateral earth pressure requirements. Plastic tanks can be used in Minnesota as a standard system (if top and lateral pressures are met; RR35.9-11), as a warrantied system (if documentation is submitted, including a warranty;

RR96-98), or as an other system, currently called “experimental system” (flow measurement, monitoring and mitigation plan; RR76.11-26). Under the proposed rules, they could also allowed under the performance system option (RR77-79).

7080.0150 subp. 3 D. Pressure Distribution. Debbi Kinney, Pumpco, 5/10/99 letter. RR45.24. E29.

COMMENT: Minimum orifice size for pressure distribution is 3/16”. This eliminates the use of engineered systems with documented research and discourages the use of micro-dosing that has been proven to benefit treatment.

RESPONSE: No rule change proposed. The commenter is requesting a smaller orifice size to be used as a standard practice. However the agency has no documentation of the long term performance of smaller holes. The commenter also does not stipulate the recommended head pressure needed to keep the orifices clean, or whether use of clean-outs should be required at this smaller diameter. Also, if the agency judged this proposal under the proposed requirements to designate systems as alternative or standard technology (new 7080.0400), data would need to be submitted to consider this request.

7080.0170 subp. 1 D. Final treatment and disposal. Debbi Kinney, Pumpco, 5/10/99 letter. RR49.4-7. S81. PH61. E29.

COMMENT: The values listed for biochemical oxygen demand of 175 or less, total suspended solids concentration of 65 mg/l or less, and an oil and grease concentration of 30 mg/l or less should be backed up by research. Commenter does not believe standard systems achieve this effluent quality, and they are not monitored to prove they meet it.

RESPONSE: Please refer to the Posthearing Comments for 7080.0170, subp, 1 D, page 61.

7080.0178 subp. 2 B. Other systems. Debbi Kinney, Pumpco, 5/10/99 letter. RR76.23. S110-112. E29.

COMMENT: The loading rate of 1.2 gpd/ft² restricts the use of engineered designed systems that load at a rate of 1.25 gpd/ft². The rule is too prescriptive. The MPCA will say that a 1.25 gpd/ft² system does not qualify as an “other system” as described in part 7080.0178; that it qualifies as a performance system (Part 7080.0179). How are the counties, regulators and industry to differentiate between the different system descriptions?

RESPONSE: No rule change proposed at this time. The research conducted which showed virus removal in sandy soils used a loading rate of 5 cm/day, which showed complete removal - except for one virus (attachment FR# 4). The 5 cm loading rate converts to 1.200 gallons/ft²/day. The commenter wishes to increase the loading rate by 4 percent. This computes to a 20 square foot difference in rockbed area for a 4 bedroom home. At this time, the agency feels that this is a significant reduction in rockbed area and proposes no change. In addition agency staff have discussed this issue with the

manufacturer of the treatment package that Pumpco uses, and they stated that they can modify their design to accommodate a 1.20 sizing requirement.

7080.0020, subp. 22e. Debbi Kinney, Pumpco, 5/10/99 letter. RR78.11. S27. E29.

COMMENT: The definition of “lot” (RR12.10-13) and the language of RR78.11 encompass all parcels of land that touch a lake and then must meet the requirements, even if the parcel is of large acreage. This is not a clear definition.

RESPONSE: The agency discussed this issue with Ms. Kinney at the 4/1/99 ISTS Advisory Committee meeting. The agency explained that soils have a high capacity to absorb phosphorus and that, if the lot were large and the system was quite a distance from the lake, meeting the 1 mg/l phosphorus limit in the groundwater could be easily and simply justified by the long setback distance to the lake. The agency’s response seemed to be acceptable to Ms. Kinney.

7080.0305 subp 4 F. General requirements for local ordinances. Debbi Kinney, Pumpco, 5/10/99 letter. RR82.10-12. S132. PH93. E29.

COMMENT: The provision that all lots created after 1/23/96 must have a minimum of one additional soil treatment area that can support a STANDARD system should be modified to say “support an additional site” (i.e., a site that could support a performance system, other system, alternative system, warrantied system).

RESPONSE: No rule change proposed. Requiring that a standard system site must be available means that the soils need to have a minimum of one foot of unsaturated soil above the water table. The agency believes this is a very minimal requirement that will likely be needed for any type of system proposed, whether it be performance, warrantied, alternative or other.

7080.0400. New technology. Debbi Kinney, Pumpco, 5/10/99 letter. RR95.1. S153-157. PH109-120. E29.

COMMENT: New technology systems must have a 25-year structural design life and a soil treatment system with a 7-year design life. Do the soil-based or standard systems that we currently use fall under these requirements? Requiring 100 systems to be installed and monitored and a documented history is a costly program or method that the industry must bear. Once this is accomplished and a standard system status is achieved, who takes or assumes liability for the system?

RESPONSE: The current soil-based systems have a 25-year life on structural components and a 7-year life on the soil treatment system when loaded at the maximum flow. The agency anticipates that the 7-year monitoring of 100 systems will not involve exhaustive monitoring, enough to show performance and often a visual examination of hydraulic performance. Without this information there is no way the agency can designate the system as a standard technology. Please refer to the Posthearing Comments for 7080.0400.

Respectfully submitted:
MINNESOTA POLLUTION CONTROL AGENCY

by Lori L.C. Frekot, P.E.

Mark S. Wespetal, Hydrologist

FR # 1. Why Treat Sewage, Minnesota Pollution Control Agency, February 1997.

FR # 2. Sewage Treatment in a Soil System, Minnesota Pollution Control Agency, February 1997.

FR # 3. ISTS Vertical Separation Requirement, Minnesota Pollution Control Agency, February 1997.

FR # 4. Removal of Virus from Septic Tank Effluent, K.M. Green and D.O. Cliver Proceedings of the National Home Sewage Disposal Symposium - 1974 American Society of Agricultural Engineers.