

**MEMORANDUM IN RESPONSE TO COMMISSIONERS GUNN, MURRAY,
AND THE ADDITIONAL QUESTIONS**

August 28, 2008

Q. A question was raised as to type of wastewater treatment system in Van Loo Estates and why customers who have a septic system which discharges from the septic tank into our sanitary sewer system should be charged similarly to a customer who does not have a septic tank and discharges (unsettled) wastewater directly from their home into our sanitary sewer system?

A. For the Van Loo Estates, the septic tank effluent comes directly to Aqua Missouri's treatment facility, which is a re-circulating sand filter treatment facility. This means that the partially treated wastewater coming from the septic tanks enters into a holding tank and then is pumped from the tank out on to the filter beds. There are approximately 51 customers in the Van Loo Estates system. There are no customers outside the Van Loo Estates area that use the Van Loo Estates treatment facility. It should be noted that the wastewater coming out of the septic tanks in the Van Loo Estates is only partially treated sewage.

With a re-circulating sand filter treatment facility, there is typically more electrical pumping than a lagoon system, but there is no electrical expense for air blowers as with some other types of mechanical treatment facilities. With this type of system, consistent pumping and re-applying of the re-circulated partially

treated wastewater across the sand filter is required. Re-circulating pump costs are not associated with a lagoon system. Also, with this type of system, settling tanks need to be cleaned out on an as needed basis which is an added cost typically not required in a lagoon system, but there is less solids handling than with conventional mechanical facilities because much of the solids are retained in the customers' septic tanks.

Septic tank effluent cannot be released straight into the environment, but treatment provided by septic tanks is a part of the treatment process. If a customer has a septic tank, some of the solids in the wastewater have been removed. The company's tariff specifies that removal of solids from privately-owned septic tanks is the responsibility of the customer. But regardless of whether a customer owns and maintains a private septic tank or not, the sewage needs to be treated by the company. For every gallon that goes into a septic system, that same gallon goes into the sewer system and requires treatment. A utility operator still has to check the facility for the same number of hours per day, perform the same number of water quality analyses, and is under the same DNR permitting requirements.

While the Company has not performed a detailed cost of service analysis in response to this inquiry, Aqua Missouri believes that the differences between the two processes ultimately yield a de minimis difference in cost. As stated earlier, effluent from septic systems still needs to be treated. In some respects, the effluent from septic systems can be harder to treat, especially for ammonia

removal, because some of the “food” for the bacteria that remove ammonia (convert it to nitrate) had already been used up in the septic tank and is not available to the nitrifying bugs.

Aqua Missouri believes that the costs of providing wastewater service are shared. For example, the pipes used to transport the wastewater require the same maintenance, similar aeration processes need to be utilized, and the same Aqua Missouri employees are scheduled to visit the facilities daily. Also, all the hydraulic components of the system, the energy costs for pumps, and sampling costs, are the same whether the influent is coming from a septic tank or not.

Aqua Missouri operates 16 wastewater treatment plants in the Jefferson City area where some or all of the customers own and maintain private septic tanks. This amounts to a total of approximately 400 customers. It should be noted however, that these 17 treatment plants are of varying types and include re-circulating sand filters, lagoons and mechanical treatment plants.

Finally, to get an accurate gauge to the cost of providing service to the ratepayers in Van Loo and other systems we would have to do a full cost of service for each treatment facility, since each individual system has its own specific costs characteristics.