From: Mike Macias [mailto:Michael.Macias@davita.com]
Sent: Monday, October 12, 2009 9:37 AM
To: CBSC (General Mail)
Cc: Don Kinyon; Uma Marimuthu; Valerie Roberts
Subject: Use of ABS/PVC in Dialysis Sanitary Sewer Applications

To Whom it May Concern;

I would like to share my personal experiences with the use of materials used in the design of the sanitary sewer for dialysis applications. Since dialysis was approved as part of the Social Security benefit plan in 1972, several outpatient dialysis facilities have been constructed to treat the currently 400,000 thousand people in this country with chronic kidney disease. These outpatient facilities treat patients with chronic kidney disease through a process called Hemodialysis. Hemodialysis is a process whereby the toxins in the patients bloodstream are removed through a process of osmosis and diffusion. Hemodialysis requires significant gallons of purified water to complete the process. The purified water used in Hemodialysis is provided by a process known as Reverse Osmosis (RO). RO water is very pure and if left in contact with metallic piping materials can cause corrosion and subsequent damage to metallic piping. During the dialysis process, there is a mixture of purified water (RO), electrolytes, and waste product (urine) from the patient that for the most part is not corrosive to metallic piping. Nevertheless, the dialysis machines are often rinsed between patient treatments with the purified RO water and sent to the sanitary sewer. It is during this process and over the course of several years that cast iron piping can be subject to the corrosive properties of purified water that can significantly reduce the lifespan of the cast iron.

Dialysis facilities are designed to last for 2 to 3 decades, but cast iron sanitary piping may not be able to provide such a length of service if subject to the corrosiveness of RO water. Once dialysis facilities are Certified by the State, they typically operate 6 days a week between 18 - 24 hours a day. Having to consider replacement of the sanitary cast iron sewer system once a facility is operational is catastrophic. If such occurs, we would be required to transport potentially hundreds of Hemodialysis patients who are have co morbid health conditions to outlying facilities that may not have the capacity to accommodate everyone. As such, it is imperative that our sanitary sewer system be designed to last several decades intact. As such, it has been my experience that ABS or PVC materials are inert to the corrosive properties of RO water and will greatly outlast cast iron in this application.

As such, it is my recommendation that your committee give consideration to allowing the use of ABS or PVC as an acceptable material in dialysis sanitary sewer designs. Thank you.

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