sensors, which sense how far the surface of the water is below the top of the wet well.

Note: Transducer sensors sit at the bottom of the wet well and determine the amount of water in the vessel based on the water pressure at the bottom of the well. More pressure means more water. Accumulated floating grease or solids are less dense than water and do not cause significant errors in the amount of water sitting in the wet well.

Ultrasonic sensors sit at the top of the well and measure how far down the surface of the water is. The closer the surface to the top of the well, the more water in the well. Floating grease or solids that accumulate on the surface of the wastewater in the wet well can more readily produce erroneously high readings of how much water is in the tank. Even if all the wastewater is pumped out, the top of the grease layer may falsely indicate to the ultrasonic sensor that there is a considerable amount of remaining wastewater in the bottom of the well.

Other relays and sensors would falsely interpret this floating layer as unremovable water resulting from a faulty pump. A pump malfunction signal would be created by the automatic monitoring system that is sent to the lift station operator via an autodialer system as well as a computer alarm signal that is sent to the operator's dedicated computer system for automatic system monitoring.

District Manager Duane Hanson reported new tap fees for new houses in the Palmer Lake Sanitation District.

Woodmoor District Manager Jessie Shaffer introduced new Woodmoor board member Tom Schwab, who will be Woodmoor's designated alternate for Whitelaw. Assistant District Manager Randy Gillette reported that annual sewer line TV inspection and cleaning is being completed using a new inspection and cleaning van just built.

Plant manager's report

Burks gave a lengthy in-depth orientation report for each of the items on the monthly discharge monitoring report to each of the new district board members in attendance. He also explained all the related policies and procedures for the numerous aspects of recording and interpreting data, particularly the highest interest heavy metals, including mercury, and the nutrients such as total phosphates, total nitrogen, total inorganic nitrogen, and nitrates, nitrites, ammonia, and sulfates. He summarized by noting that the plant is operating very efficiently in all aspects of operation with 99 percent removal of wastes and suspended solids.

Burks said that this year's sludge hauling will not begin until the last week in June because the farmer that will be applying the sludge as fertilizer to his fields is late cutting his hay. Fortunately, sludge processor Liquid Waste Management still had a flexible schedule for its transportable dewatering equipment and dump trucks that will transport the processed biosolids to the farm.

Burks noted that there would have to be another sludge removal cycle next summer. In the past, sludge removal has typically been performed every other year. However, an early freeze last fall drastically reduced the amount removed in 2011.

Burks said he has consulted his engineer to determine if it may be more cost effective to have the Tri-Lakes staff dry out the sludge with new on-site equipment so that only the transport of the dewatered biosolids to farms would have to be outsourced.

Burks noted that the south Monument metering vault had been successfully relined with a plastic material to stop the concrete erosion that was being caused by hydrogen sulfide gas.

Regulatory report

Jim Kendrick, Operations, Monument Sanitation District, reported that he attended the final Water Quality Control Commission nutrients hearing on June 11 for the new Control Regulation 85 and the nutrient amendments to Regulation 31. Kendrick has represented all the wastewater and stormwater entities in the Tri-Lakes region at numerous meetings in Denver for over three years. He gave an orientation to the new board members on the history of these two new nutrient regulations. He also gave an orientation on legislative actions taken against the new regulations at the request of the state wastewater community due to very low benefits compared to very high costs.

The original final nutrient

(Continued on page 10)