



Nebraska Wellhead Protection Network

Monday February 29, 2016

1:30 pm – 4:00 pm

Kearney Public Library, Kearney, Nebraska

Present:

Dick Ehrman – Lower Platte South NRD (LPSNRD), Sam Capps – NDEQ, Jason Moudry – Lower Loup Natural Resources District (LLNRD), Tom Moser – Lewis and Clark Natural Resources District (LCNRD), Marty Link – NDEQ, Ryan Chapman – NDEQ, Doug Buresh – Nebraska Rural Water Association, Terry Julesgard – Lower Niobrara Natural Resources District (LNNRD), Ryan Reisdorff – South Platte Natural Resources District (SPNRD), Dan Clement – Central Platte Natural Resources District (CPNRD), Doug Hallum – UNL Conservation and Survey Division, Daryl Anderson – Little Blue Natural Resources District (LBNRD), Kirk Stocker – City of Kearney Utilities, David Miesbach – NDEQ, Steve Herdzina - (LPSNRD), Ryan Rezac – LPSNRD, Dan Schulz – LPSNRD, Anthony Lowndes – TGF

Anthony Lowndes (The Groundwater Foundation) – Called the meeting to order, welcomed those present and went over the agenda.

Kirk Stocker – City of Kearney Utilities, General Manager

The City of Kearney has adopted a Wellhead Protection Overlay District for the Platte River Wellfield to better manage potential contaminant sources. The area lies within the City's two mile extraterritorial jurisdiction allowing for ordinances restricting certain developments in four zones established by the overlay district. For specific restrictions and a map referencing the four zones see appendices.

Mr. Stocker also discussed the development of a second well field on the northwest side of town that created redundancy in the system and ensured the City would be able to meet peak demand as they continued to grow. When purchasing the property to establish the well field the decision was made to own as much of the area within 1,000 feet of the wells as possible. This allowed the City to control and manage the area without establishing a well head protection area for the new well field.

A tour of the Platte River well field was provided by Mr. Stocker and other staff of the Kearney Utilities department after the regular meeting of the WHP Network. Pictures of the tour can be found in the appendices.

Round Robin Notes:

Lower Platte South Natural Resources District - Dick Ehrman reported the NRD has an application in for Water Sustainability funding to conduct additional Airborne Electro Magnetic (AEM) survey flyovers in the east part of the district. This will hopefully give a better picture of very thin sand/gravel lenses (sometimes only 5' thick) and help those communities with water management. They are continuing the vadose zone monitoring to evaluate future potential contamination.

The district continues to encourage Best Management Practices practices and requires nitrogen certification in Phase II and III areas. Wellhead Protection areas are designated management areas regardless of what phase they are in.

Lower Niobrara Natural Resources District - Terry Julesgard reported the West Knox Rural Water System's WHP plan is mostly complete and should be submitted soon. A new wellfield was developed for the system to create redundancy in the system and provide some assurance in the event of any disruptions.

The district is not allowing new irrigated acres or new wells. They did get confirmation on Nebraska Environmental Trust funding to conduct AEM surveys.

Little Blue Natural Resources District - Daryl Anderson has been working with Jon Mohr to write WHP plans in Ohio and Glenville.

Central Platte Natural Resources District - Dan Clement reported the district is conducting a nitrogen management program and there are no new irrigated acres allowed. They are not conducting anything specific in the way of WHP planning.

Lower Loup Natural Resources District- Jason Moudry says the Integrated Management Plan (IMP) for the district has been submitted for approval and North Loup is tying into Ord's water system because of arsenic issues. They do not expect to serve any rural users between the two.

Lewis and Clark Natural Resources District - Tom Moser reported that Martinsburg has found uranium in water samples after facing high nitrates for some time. They have submitted for a search grant to explore new water resources. Maskell is looking at connecting to the rural water system and Coleridge has begun the WHP planning process.

NDEQ - Sam Capps reported the WHP plan for Duncan has been approved and she received a plan from Osmond. Both plans have been written in a new, more narrative style so members of the City Council (Village Board etc.) can effectively read and understand the plan. This style will allow the plans to be utilized in the long term and be maintained as a living document. Contact Sam to see the Duncan and Osmond plans.

Dave Miesbach says NDEQ is in the process of hiring a new WHP map temp that will be updating the WHP area maps. If anyone knows of someone that is interested in geology and WHP have them contact DEQ and apply for the position.

Ryan Chapman says they are working with the Water Center on a program to create a more standardized process for conducting vadose zone sampling so communities don't have to reinvent the wheel. DEQ is also working to create a state-wide online repository for vadose sampling.

Side conversations arose including:

Whether or not water softeners/filters can lower nitrates – Upon investigation it does not appear that a typical household water softener with standard softener salts will remove any nitrates from the water. There are a couple companies who do integrate nitrate and hardness removal but this is a specific system designed to do both not a standard water softener.

The effectiveness of UV treatment on Atrazine. – There are several studies illustrating the photolytic treatment of water contaminated by atrazine using UVC irradiation. Many of the studies propose equations to calculate the needed UVC output power, water treatment capacity and atrazine outlet concentration.

Final note: several NRDs are working to conduct the AEM surveys and it was said that coordination of the flights may result in better use of each flight. So keep the communication going.

Pictures:



These three UV irradiation units were installed to treat for cryptosporidium. The two blue, empty pipes in the foreground of the photo were installed at the time of construction so expansion of the system could be made at a later date if necessary.

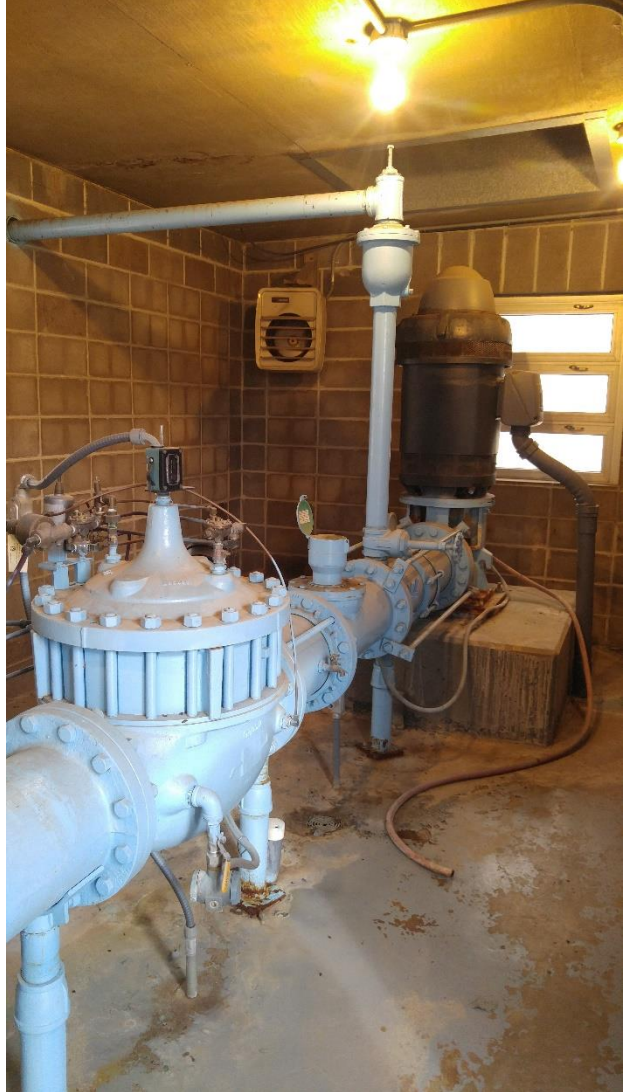




Kirk Stocker – Director of Utilities for the City of Kearney - explains how the program monitors the levels in each of the City's three water towers and delivers water accordingly. The program can also determine if water should come from the Platte River well field or the Northwest well field among other things.



This UV system was currently processing 1870 Gal/Min and was operating just over 60 psi.



One of the pump houses at the Platte River well field.

