

Dover's Notes from Meetings During Audit
Wolf Creek NRC Relicensing audit

Meeting on Tritium in Surface and Groundwater
Tuesday, March 13

Scott Wertz – NRC
Rich Emch – NRC
Andrew Luu - NRC
Robert Dover – Earth Tech
Bobbie Hurley – Earth Tech
Steve Koenig - WCNOG
Others from TetraTech, WCNOG, and other power plants as observers (names not captured)

Mr. Koenig is the Radiation Protection and Chemistry Manager for WCNOG, and was the primary WCNOG contact during this meeting. There were approximately 10-15 other WCNOG and Tetra Tech persons in attendance.

NRC and Earth Tech presented their reason for desiring a meeting on the tritium issues, which was to determine what monitoring data exist to evaluate the potential for tritiated surface water from Coffey County Lake to migrate to groundwater and the Neosho River.

The WCNOG persons presented information on sampling locations from their Annual Radiological Monitoring Program, which the Earth Tech and NRC staff had already seen. The WCNOG persons confirmed that this was the only monitoring data that existed, and that they do not know the depths of the wells they sample.

The WCNOG staff reiterated that they had supplied substantial documents from their pre-operational studies that evaluated and modeled the potential for groundwater impacts, and that these models had resulted in a determination that impacts were unlikely. NRC and Earth Tech staff responded that we intended to review and evaluate these pre-operations evaluations, but that there was concern that it would be impossible to draw conclusions regarding impacts in the SEIS based on pre-operational estimates, without much actual monitoring data. Although there is monitoring occurring, Earth Tech and NRC expressed the concern is that it is too limited in scope to adequately evaluate the actual impact.

Mr. Koenig introduced the fact that WCGS was entering a voluntary program to evaluate their tritium monitoring, and if this evaluation indicates that they need to increase their monitoring or do a sampling investigation to evaluate groundwater, they will do so by early 2008. There was substantial discussion about the origin of this program, but the facility has not yet begun the study, so no details of the scope or actual schedule were available.

The WCNOG staff provided an updated version of the tritium concentration over time graph for Coffey County Lake. The Earth Tech staff had previously obtained a copy of this graph in the 2005 Radiological Environmental Monitoring Report, and the version provided at the meeting was the same graph updated for 2006. The 2006 Radiological Monitoring Report has not yet been released. The updated graph shows that the average tritium concentration in 2006 was lower than 2005 – about 14,000 pCi/L in 2006 versus 17,000 pCi/L in 2005. The WCNOG staff stated that they believed that the graph demonstrated that the tritium concentration in the lake had reached equilibrium, and would not rise above current levels.

WCNOC staff provided information on a groundwater investigation for tritium that the Earth Tech and NRC staff was not aware of. This was a study done by the installation of some wells directly on the facility, between the buried effluent line and the lake, to determine if the buried effluent line was leaking. WCNOC provided a one-page summary of this study, which showed that groundwater at the monitored locations did detect tritium at about 1,400 pCi/L. WCNOC staff stated that this result was interpreted to indicate that there were no leaks from the effluent piping.

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Meeting on Air Quality Issues
Tuesday, March 13

Scott Wertz – NRC
Robert Dover – Earth Tech
Dan Williamson – WCNOG
Others from TetraTech, WCNOG, and other power plants as observers (names not captured)

Requested copy of permit and most recent monitoring data. These were provided in hard copy, and kept by Scott Wertz.

Requested information on current compliance status and recent compliance incidents, if any.

Mr. Williamson provided information on an incident in 2005 that resulted in a calculation of NO_x exceedances due to modeling of diesel generator and auxiliary boiler sources. Modeling of these emissions in 2005 resulted in prediction of an exceedance that was self-reported to the state. The issue was not a one-time exceedance, but a month-by-month calculation that, by the middle of the year, WCNOG was predicting that they would end up exceeding their annual allowance. So the issue was reported to the state, and corrected, long before an actual exceedance occurred.

The issue was associated with how the allowed 100 tons of NO_x emissions per year was allocated among the different sources at the plant. Once the facility identified the issue, they worked with the state to modify the air permit accordingly. There were no operational changes at the plant, only changes in the permit requirements for monitoring. We requested a copy of the letter from the state that closed out the discussions of the 2005 issues. This was provided later in the day, and kept by Scott Wertz.

Mr. Williamson stated that this is the only instance of permit limitations being exceeded in the history of operations of the plant. Mr. Williamson has been an employee at the plant since the early 1980s, before operations began.

Because of the low level of emissions of the plant, they have a Class II permit. This type of permit has no expiration date. If they had larger emissions, they would be required to have a Class I permit, which would have stricter monitoring requirements and an expiration date.

The state permit writer for the WCNOG permit is Rick Bolting – his name and phone number are on the permit.

The meteorological tower onsite was originally installed to collect data to support licensing – it was the first structure built onsite. The current purpose is only to collect data to model emissions that may occur during accidents.

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Meeting on Water and Ecological Issues with KDHE
Wednesday, March 14

Scott Wertz – NRC
Rich Emch – NRC
Andrew Luu – NRC
Harriet Nash – NRC
Alicia Williamson – NRC
Christian Jacobs – NRC
Veronica Rodriguez - NRC
Robert Dover – Earth Tech
Bobbie Hurley – Earth Tech
Steve Duda – Earth Tech
Ed Dillingham – KDHE
Don Carlson – KDHE
Others listed on sign in sheet

First part of meeting Dover attended was the “water” breakout session with the KDHE water staff (Ed Dillingham and Don Carlson), and the NRC/Earth Tech staff associated with water use, water quality, and ecological issues.

In this meeting, Ed and Don were asked a variety of questions relating to the availability of water quality information through KDHE. For specific data, they suggested contacting the following sources:

- For well inventories, locations, and construction information, they referred the group to the Kansas Geological Survey.
- For information on static water levels in wells and well uses, they recommended contacting the Kansas Dept. of Agriculture Division of Water Resources.
- For information on the administration of the Minimum Desirable Streamflow (MDS) program, they recommended contacting the Kansas Water Office and Division of Water Resources.
- The KDHE water group's only involvement in water issues at WCGS is administration of the NPDES permit for the facility. They presented data on violations/exceedances for the past year, and told us we could request all of the monitoring data from them, or from WCGS, in electronic form.
- For the KDHE Statewide Surface Water Monitoring Program, they recommended contacting Bob Angelo with KDHE. They said Mr. Angelo may also have information on fish tissue sampling.

The only compliance issue that exists, with respect to the NPDES permit, was a pH issue related to the facility wastewater treatment system about 7 years ago. The issue had to do with the exact locations at which monitoring was conducted, and the issues were resolved without issuing an NOV or a compliance action by revision of the monitoring requirements in the permit. Ed and Don stated that there were no current NOV's or concerns related to facility compliance with the permit. With respect to tritium concentrations in the lake, they referred the group to a clause in the permit that states that all radiological issues are regulated by NRC.

Following the water discussion, Bob Dover, Drew S., and Scott Wertz moved to a different room where radiological issues were being discussed. The primary KDHE contact there was Kim Steves. The NRC/EarthTech staff asked if an updated version of the annual radiological monitoring report had been developed, and Ms. Steves said it had, and agreed to provide it. The KDHE data, like the WCGS data reviewed the day before, showed a drop in the average tritium concentration in the lake in 2005. The KDHE staff stated that this was due to significantly higher rainfall in 2005 and early 2006, which resulted in dilution of tritium concentrations in the lake.

Asked about information on tritium concentrations in public water supplies, KDHE referred us to Dave Waldo, of the KDHE Public Water Supply Program.

The KDHE staff was involved in the localized tritium investigation that occurred near the effluent pipeline in 2006. Because of this issue, they had increased the number of wells they sampled for tritium in the annual program. They provided the names of the new wells that had been added, and they were the same wells that WCGS had added to their program, so there is no new monitoring data here. With respect to the tritium concentrations detected in the wells near the effluent pipeline, the KDHE staff stated that the tritium was likely either infiltration from the lake, or the result of the use of lake water for fire suppression exercises.

Bob Dover asked about the 2005 report, in which 5 of the 12 data points for tritium concentrations in fish tissue had been deleted because of reported false positives. The KDHE staff stated that this was due to a known lab error that had been resolved, and that the 2006 report did not have fish tissue results thrown out in this manner.