

Site: Wolf Creek Date: ~~3/8/06~~ Person Contacted: Bill Muilenburg
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The NRC has requested the following information from WCNOG:

1. Has there been any Tritium spills or leaks other than effluents? If yes describe.

No. Wolf Creek discharges radioactive liquid effluents in accordance with regulations and station procedures to Coffey County Lake (Wolf Creek Generating Station's cooling lake). As a result of these discharges Coffey County Lake has tritium levels in the range of ~9,000 pCi/L - ~16,000 pCi/L. Coffey County Lake is the water source for all water used at Wolf Creek other than potable water, including Circulation Water, Service Water, Essential Service Water, Component Cooling Water and Fire Protection water systems. Therefore, all water used in or discharged from these systems does contain tritium. Any leaks or discharges from these systems are expected to contain the same levels of tritium as the lake, see note below.

2. Where is the liquid waste discharge at WCNOG? The discharge flow path for procedurally allowed effluent releases is typically the circulating water (condenser cooling water) discharge flow path. This path discharges to Coffey County Lake.
3. If the licensee has discharge lines that carry radioactive liquid. Does the licensee discharge lines traverse any non-licensee areas? No

Does the licensee have monitoring? Yes

If yes how frequently? Each radioactive effluent release point contains a process liquid radiation monitor with automatic isolation capabilities. These monitors are continuously in service during the discharge process. They sample a small amount (3 to 5 gpm) of bypass effluent to ensure release limits are not exceeded.

4. Are there any vacuum breaker, pressure release or similar devices on discharge lines? If so how are they monitored for releases? None installed.
5. What surface bodies of water are there on site? (i.e. Lake, sanitary sewage)

Wolf Creek uses a 5,090-acre lake, Coffey County Lake, for cooling. A 9.43-acre non-discharging sewage lagoon is used for domestic waste. There is a 31 acre lime sludge pond used as a settling basin for discharges of regenerate wastewater.

Are they open bodies of water or are they lined? These bodies of water are open and not lined.

Of the bodies of water what is the highest level of contamination (Tritium in the lake)? Tritium in Coffey County Lake varies from ~9,000 pCi/L to ~16,000 pCi/L.

What is there potential source? Permitted liquid radioactive waste discharges.

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6. Does the licensee have ground water monitoring wells on site? There are no specifically designed ground water monitoring wells on site. There are several de-watering well casings used for de-watering access pits for piping inspections.

How many wells and where are they located?

Wolf Creek is in the process of determining the number of, and locations for, ground water monitoring wells.

7. What frequencies do the licensee sample or analyze the wells? Wolf Creek plans to sample these wells quarterly.

8. What radionuclides does the licensee monitor? See Table 2-1.

What are the MDA levels of the nuclides? See table 2-1.

What is the licensee looking for? See table 2-1

TABLE 2-1
RADIOACTIVE LIQUID WASTE SAMPLING AND ANALYSIS PROGRAM

LIQUID RELEASE TYPE	SAMPLE FREQUENCY	PRINCIPAL GAMMA EMITTERS	I-131	DISSOLVE D/ ENTRAINE D GASES (GAMMA)	GROSS ALPHA AND H-3	Sr-89, Sr-90	Fe-55
1. Batch Tanks (2) a. THB07A&B LLD (1)	P	P(3) 5E-7	P 1E-6	M 1E-5	M Composite(4) 1E-7 for Alpha 1E-5 for H-3	Q Composite(4) 5E-8	Q Composite(4) 1E-6
b. THF04A&B LLD (1)	P	P(3) 5E-7	P 1E-6	M 1E-5	M Composite(4) 1E-7 for Alpha 1E-5 for H-3	Q Composite(4) 5E-8	Q Composite(4) 1E-6
2. Continuous Releases (5)							
a. Steam Generator Blowdown LLD(1)	Daily (6)	W(3) Composite(4) 5E-7	W Composite(4) 1E-6	M 1E-5	M Composite(4) 1E-7 for Alpha 1E-5 for H-3	Q Composite(4) 5E-8	Q Composite(4) 1E-6
b. Turbine Building Sump LLD(1)	Daily (6)	W(3) Composite(4) 5E-7	W Composite(4) 1E-6	M 1E-5	M Composite(4) 1E-7 for Alpha 1E-5 for H-3	Q Composite(4) 5E-8	Q Composite(4) 1E-6
c. Waste Water Treatment LLD(1)	Daily (6)	W(3) Composite(4) 5E-7	W Composite(4) 1E-6	M 1E-5	M Composite(4) 1E-7 for Alpha 1E-5 for H-3	Q Composite(4) 5E-8	Q Composite(4) 1E-6
d. Lime Sludge Pond LLD (1)	Daily (6)	W(3) Composite(4) 5E-7	W Composite(4) 1E-6	M 1E-5	M Composite(4) 1E-7 for Alpha 1E-5 for H-3	Q Composite(4) 5E-8	Q Composite(4) 1E-6

LLD = (mCi/mL)

9. Has the licensee on site identified any radioactive ground water contamination? No, as indicated in question 8 Wolf Creek does not currently monitor on site for ground water contamination. Off site ground water and drinking water are routinely monitored as part

of the Radiological Environmental Monitoring Program. No off site radioactive contamination of ground water has been detected.

If so when? N/A

Did the licensee document in the corrective action database? N/A

How large was the spill? N/A

10. If the licensee does not have an onsite radioactive ground water program, does the licensee plan on implementing one or do you take other measures to identify? Wolf Creek is currently working on a procedure and locations to perform onsite de-watering well sampling.
11. Does the licensee have surveillance programs that walk down the outer areas of site to look for potential leaks and spills? Yes, Environmental Management performs a bi-monthly site surveillance inspection and Operations perform daily inspections by Site Operators.
12. Does the licensee perform other onsite monitoring such as soil sampling to identify unexpected radioactive releases? Yes, Health Physics performs soil and water samples prior to releasing from the RCA yard area.
13. As described in IE Bulletin 80-10 what clean systems have become contaminated? The secondary side of WCGS with the exception of the potable water system is tritiated. However, no direct contamination of clean systems has occurred at WCGS.
14. Does the licensee have a history of radioactive spills or leaks (i.e. 5075g) documentation?

Wolf Creek did detect spent fuel pool liner leakage via the leak detection and collection system. There have been a total of 3 leaks found, and repaired, in the spent fuel pool. One in the late 1980's, one in 1999, and one in 2001. All three were located by back-pressuring the leak chase system, and repaired. In all three cases, the leakage was contained within the building systems. Since that time no further leaks have been detected. There are no known leaks or spills that have occurred outside of plant structures. There have been leaks/spills that have occurred inside structures designed to contain and control the leaks or spills to inside the structure.

NOTE: During activities such as flushing of fire protection lines or draining of the described systems, that have water from the lake in them, the tritiated water is discharged to the ground or storm sewer systems. Because of Wolf Creek's topography these discharges all return to the lake. No additional tritium is added to the environment as a result of these evolutions.