Appendix D. NPDES Noncompliance Summaries for 2004

Appendix D. NPDES Noncompliance Summaries for 2004

D.1 Y-12 Complex

There were no NPDES noncompliances at the Y-12 Complex in 2004.

D.2 East Tennessee Technology Park

D.2.1 Unpermitted Discharge of Fire Retardant and Chlorine

Description and Cause

On February 9, 2004, a mixture of fire retardant, chlorinated water, and residual materials from a scrap metal container from a fire-fighting operation entered the storm drain network. Approximately 49 fish in Mitchell Branch were found dead shortly afterwards, and the fish kill is believed to be the result of this discharge.

Corrective Actions

All residual materials at the fire site were cleaned up. The ORNL Environmental Sciences Division conducted monitoring along Mitchell Branch for several days after the fish kill to ensure that no long-term damage had resulted.

D.2.2 Unpermitted Discharge of Water

Description and Cause

On August 2, 2004, it was discovered that a restroom in the K-1007 building had been mistakenly connected to the storm drain network instead of the sanitary sewer system. Monitoring of the outfall and receiving waters did not reveal any significant impacts to the environment.

Corrective Action

The restroom was closed, and the drains were properly connected to the sanitary sewer system.

D.2.3 Unpermitted Discharge of Water

Description and Cause

In 2004, it was discovered that a shower facility associated with the K-31 building decontamination and decommissioning project had been improperly connected to the sanitary sewer system and over-flowed into the storm drain network. Monitoring of the outfall and receiving waters did not reveal any significant impacts to the environment.

Corrective Action

The facility was closed, and the drains were connected to a portable tank to await characterization and proper disposal.

D.3 Oak Ridge National Laboratory

D.3.1 Iron and Copper Exceedances

Description and Cause

Daily maximum and monthly average concentration limits for iron and copper at Outfall X02 were exceeded in January 2004. The Outfall X02 treatment facility was in the process of optimizing treatment chemistry in response to new demand on the steam system and to achieve safety and pollution-prevention goals.

Corrective Actions

The facility operator modified the treatment process to improve copper and iron removal. This caused a slight increase in sludge production. Additionally, the impact of the steam system chemicals on the treatment system was reevaluated and management of the boiler blowdown was adjusted.

D.3.2 Carbonaceous Biochemical Oxygen Demand Exceedance

Description and Cause

One instance of nonconformance with the ORNL NPDES Permit occurred during August 2004. One required carbonaceous biochemical oxygen demand (CBOD) value was not quantified in a sample collected at Outfall X01, the ORNL Sewage Treatment Plant. A 24-hour NPDES composite sample for CBOD was collected by environmental monitoring staff on the morning of August 5, 2004, and was submitted to the laboratory for CBOD analysis. The laboratory staff prepared the sample and performed the prescribed analytical method (Standard Method 5210B) and found that nearly complete oxygen depletion was occurring in all prepared dilutions. Per the EPA method, the CBOD could not be calculated. Therefore, only two of the three required CBOD values are reportable from that week. Communications with ORNL staff determined that subcontract personnel did not communicate their intent to dispose of a propylene glycol solution. The rate of disposal was in excess of the Sewage Treatment Plant's ability to treat it completely.

Corrective Actions

Oversight of subcontractors and communication of ORNL requirements were reevaluated to ensure that they are incorporated into work planning and implementation.

D.3.3 Unpermitted Rinse Water Release

Description and Cause

Grounds-keeping staff members at ORNL use an herbicide preparation that is colored with blue dye to mark where herbicide mixture has been applied and thereby avoid excessive application. On December 14, 2004, a staff member rinsed a sprayer tank used for storing a glyphosate herbicide preparation to prepare the tank for another use. The initial rinse was released to a graveled area away from storm drains and waterways. The second rinse was inadvertently released through Outfall 234 into a short, unnamed tributary to White Oak Creek. The entire length of the tributary appeared blue, and when it entered White Oak Creek, a short length on one bank appeared slightly discolored. As this was a second rinse, the primary concern to White Oak Creek was the discoloration of the creek, although possible damage to aquatic life from the herbicide was also considered. Visual surveys of White Oak Creek and the tributary noted no such damage.

Corrective Actions

A review of the incident, which included grounds-keeping staff members, their management, and environmental protection staff, was held on December 16, 2004. As a result of the review, written procedures and training were reviewed and updated to ensure that staff is aware of proper disposal of rinse water and other wastewaters they might generate.