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EOC Spot Report: Chemical Spill, Charleston WV – Update #4

US Environmental Protection Agency

Report as of 1430 January 11, 2014

Overview: On January 10, the President approved an Emergency Declaration for the State of West Virginia after a chemical leaked through a secondary containment area at a Freedom Industries chemical plant and into the Elk River in Charleston, WV (pop. 51,018) (NRC#1070627). The chemical (4-methycyclohexane methanol) is a flammable solvent used in the coal preparation process and is an irritant to eyes, respiratory system, and skin. The West Virginia Office of Environmental Health Services (OEHS) estimates no more than 5,000 gallons of chemical leaked in the Elk River. Based on river flow dilution, officials calculate the chemical concentration in the water to be well below the CDC declared safe level. The spill occurred near the Kanawha Valley Water Treatment Plant. The Kanawha Valley Water Treatment Plant detected the chemical even after the increased carbon treatment effort was put in place. Freedom Industries is working to clean up the spill at the facility and in the river.

The Elk River is an area that has been designated a "Critical Habitat" for the Diamond Darter which is a freshwater fish listed as an endangered species. Located about 30 miles to the southeast of Charleston are the Gauley River National Recreation Area and the New River Gorge National River.

State, Local and other Federal Agency Actions: West Virginia water authorities have issued a "Do Not Use Water Notice" for 10 counties (Kanawha, Boone, Putnam, Lincoln, Logan, Clay, Roane, Jackson Cabell and Wayne) and the President's Emergency Declaration covers eight counties (Kanawha, Boone, Putnam, Lincoln, Logan, Clay, Roane, and Jackson). West Virginia American Water (WVAW) customers are told not to use tap water for drinking, cooking, washing, or bathing. Water can be used for toilets and fire emergencies. Boiling water will not get rid of the chemical. This is believed to impact 100,000 customers (300,000 people).

The WV Department of Health and Human Resources (WVDHHR) laboratory has been trained by DuPont on analytic method for 4-methylcyclohexane methanol and are running the method to ensure it obtains reliable detection at 1 ppm. If all works well, they are ready to begin processing samples. WVDHHR has been meeting with WVAW to plan sampling to monitor concentrations at intake and post-plant, and throughout the distribution system. WVAW is using an hydraulic model of system to plan sampling.

Also exploring potential actions to lift "Do Not Use" status in stages, as conditions improve, both in terms of 1) declining stringency (e.g., can go from "Do Not Use" to "Do Not Drink" so customers can use for bathing); and 2) geography of distribution system (e.g., potentially relax advisory differentially, as segments of distribution system are cleared). American Water (parent corporation of WVAW) has been engaged with WVAW, the WVDHHR, and chemical manufacturer in discussions of toxicity, treatment, etc.

American Water has sent some water tankers into the area. FEMA's delivery of 54 trucks of water arrived early this morning at the Yeager Airport in Charleston, WV. FEMA is planning to deliver 50 trucks per day. The water is distributed by the Army National Guard at 15 points of distribution (PODs) throughout the area. FEMA also reported the water inventory is being restocked at stores in the area. Rural Water Associations from Maine and Pennsylvania are reported to be responding to West Virginia Rural Water's call for water, supplying some bottled water.

Flushing will be key to removing contaminant from system, but will take time, longer in some areas than others. The distribution system is up to 50 miles, so age of water (length of time from treatment to distal point) will be likewise lengthy, possibly up to a couple of weeks in the extreme. Again, hydraulic modeling will be greatly beneficial in planning/executing the flushing. EPA advised that it will be important to backflush filters/media, understanding the challenge of water waste when faced with need to get water pumped into distribution system.

There is no readily viewable evidence of other environmental harm or fish kill at this point.

The WV Department of Environmental Protection (WVDEP) issued to the facility a cease and desist order; issued a notice of violation from their air division; and issued a notice of violation of the facility's NPDES permit. The WV Department of Environmental Protection (WVDEP) ordered Freedom Enterprises to begin removing all the chemicals in the 14 above-ground storage tanks at the Elk River spill site. Materials in three tanks (one of which was the leaking tank) have already been removed. Freedom Enterprises must also submit a plan to clean up contaminated soil and groundwater before the weekend is over. WVDEP has also directed the facility to contract a certified Oil Spill Response Organization (OSRO), the initial response contractor on-site from the facility was not an OSRO. The facility has now contracted with Clean Harbors. WVDEP directed the facility to dig a cut-off ditch because the product had infiltrated through the ground to a storm drain outfall where it continues to enter the river. The ditch initially was not dug deep enough, so the facility made it deeper so it is now collecting product/water mix. In addition, a pit was dug in the tank farm area and lined with plastic to collect the product before it soaks the soil. The collected product, the leachate from the ditch, and the remaining product from the leaking tank are transferred to vac trucks and disposed

of. The vac trucks and collection pumps are a 24 hour operation with the WVDEP providing oversight in shifts for the 24 hour period.

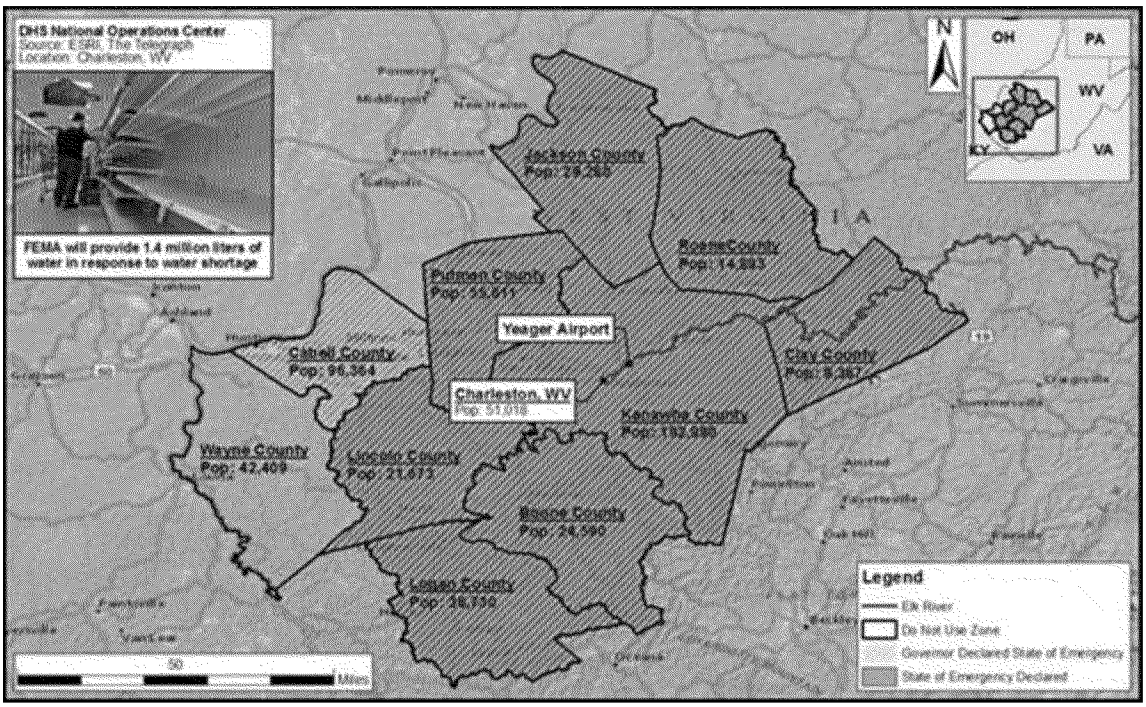
WVDEP has also directed the facility to deploy hard boom in the river, which was done once Clean Harbors arrived. The initial boom was absorbent boom that was lying on top of the ice that allowed the product to flow under the ice and enter the river. WVDEP called the US Coast Guard from MSU Huntington to assist in a boom strategy for the river. The boom strategy was agreed upon by EPA, USCG, WVDEP and the facility in a meeting this morning. Clean Harbors will then deploy the boom in the river downstream of the facility and place additional hard boom to divert product from the downstream water intake.

This morning the facility estimated the leaked product as 7,500 gallons. This is total product lost but not all has entered the river because some product is still trapped under the cement pad with the three tanks. WVDEP has ordered the three tanks be cut apart and removed so the pad can be inspected.

WVDEP last night was sampling from boats in the river along the shoreline of the facility.

The facility gave the EPA OSCs information taken from the Etowah River Terminal Inventory Status Report dated January 10, 2014. The report listed the following products stored in the tanks are raw glycerin and finished glycerin (which just has water added); Calcium Chloride; Lignin; MCHM (product that leaked); RDC 777 (a road dust control substance); and a tank of weak salt.

Concerning the health affect of the chemical, ATSDR has issued the following statement on the product. EPA is drafting a complementary statement. ATSDR statement: "The chemical 4-methylcyclohexane methanol is safe for consumption, bathing and washing clothes *if the measured levels are less than 1 parts per million. (ppm)*. If the levels of the chemical are less than 1ppm then public health officials do not expect individuals to experience adverse health effects. If a person has questions about their drinking water consumption and other household uses please contact their local public health authority. If there are questions about potential health impact, please contact their healthcare provider."



The West Virginia Emergency Operations Center is fully activated and the state has activated their Health Operations Center. The FEMA Region III Regional Response Coordination Center (RRCC) is activated to Level II (Partial) and the FEMA Region III Liaison Officer and Incident Management Assistance Team have been deployed.

EPA Actions: The EPA OSCs conducted air monitoring using a PID/FID (TVA 1000). Monitoring was conducted 500 feet off of the property, along the fenceline of the facility, within the tank farm area, and directly above the open ditch collecting the product and directly from the tank. Detection levels increased closer to the source of the release.

The Senate Environmental and Public Works Committee asked if the facility had a SPPC plan. There is an SPCC plan on file for previous owner Pennzoil at the site in 2000 (SPCC Plan # WV-2000-00055). The plan on file does not include an updated plan under the name Freedom Industries. The EPA OSCs are checking what is stored on site currently to determine if the facility is required to have an SPCC plan.

Media Interest: High

The HQ EOC will continue to monitor and provided updates as needed.

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