Thursday, January 9 – Notice of a chemical spill from Freedom Industries, which is the old Pennzoil Refinery. The spilled chemical was 4-methylcyclohexane methanol, which is used in coal preparation and processing. Spill into the ELK River occurred sometime early in the day. The Gov of WV declared a state of emergency for at least five counties. The Kanawha Valley Water Treatment Plant detected the chemical even after the increased carbon treatment effort. WV issued an order to not drink cook or bathe in the water, which affects approximately 100,000 people.

Friday, January 10 – Two EPA OSCs arrive on site to assist WVDEP, the lead for the incident. The facility has placed boom in the river and dug trenches to collect the material before it moves downstream. WVDEP has requested EPA assistance in developing addition air and water monitoring strategies. EPA is working with its contractor to develop the appropriate sampling for the chemical so the sampling can start as soon as possible. In addition, EPA Region 3 personnel will be staffing the FEMA response center in Philadelphia through the weekend on a 24 hours basis. WVDEP reported that the water company, WV American Water Corporation, is collecting samples and DuPont developed a drinking water sample and analytical method for this chemical, which was shared with the WV Department of Health and Human Resources. EPA Region 3 convened a meeting of the Regional Incident Coordination Team to discuss questions raised by FEMA concerning EPA's authorities and discussed the status of the water treatment plants.

Saturday, January 11 - EPA Region3's Water Division received information from Walt Ivey, Director of the WV Drinking Water Program, yesterday as follows: WVDHHR laboratory has been trained by DuPont on analytic method for 4-methylcyclohexane methanol and has met with WV American to plan sampling. 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.

Concerning the health affect of the chemical, ATSDR has issued the following statement on the product. EPA is drafting a complementary 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."

EPA finalized a statement concerning the Freedom Industries incident as follows:

EPA continues to work closely with other Federal and State agencies in West Virginia as they begin implementing a plan for getting the water system back on-line. The State of West Virginia and the West Virginia American Water Company (WVAWC) are developing a plan for flushing the system, along with sampling and analysis, that will allow residents to begin using their water as soon as possible. State and Federal (ATSDR/CDC) health officials have agreed that a level of 1 part per million (ppm) of methylcyclohexanemethanol is protective of public health and the

State/WVAWC will use the flushing process to assure that and the 1 ppm level is achieved throughout the system. The EPA supports this approach and has offered sampling and monitoring assistance to the State during the restart efforts.

Sunday, January 12 - The OSCs met this morning with the facility, WV DEP, and USCG and agreed upon a command structure. The three tanks that all held the MCHM are still being removed. Boom is still deployed in the river. WVDHHR has been extremely busy getting lab support established for both WV American and the State. The labs will enable the State to process the huge number of samples involved in the distribution system testing. The latest sample results indicate that the treated water has been consistently less than 1 ppm MCHM over 24 hours; recent intake (raw river water) samples were very low or non-detect.

Monday, January 13 - All three tanks have been cleaned out. The facility requested that EPA assist in the review of the general site safety plan and the contractor safety plan. A french drain will be completed today to assist in water collection and pumping out of the water/product mixture from the soil near the leaking tank. WVDEP water samples are being taken twice a day at two locations. One location is 2.1 miles upstream from the facility in the Elk River. The second location is 10 miles downstream from the facility in Kanawha River. Area hospitals were flushed first this morning and then it was announced that Zone 1 was given the go-ahead to begin. The availability of bottled water and water buffalos continues to improve. Grocery stores are re-supplied and even a few restaurants/bars are slowly reopening once their potable water plan has been approved by local health department.

OSC Matlock reported that Chemical Safety Board (CSB) personnel arrived at the facility to conduct an investigation. The CSB estimated that their investigation will be completed this Friday, January 17, 2014. Their initial steps included interviewing the facility owners, WVDEP, USCG, and EPA. The facility is cooperating with the CSB. USCG offered the CSB a facility file, as the facility was formerly regulated. WVDEP offered the CSB a Brownfield file from the late 1990's.

Tuesday, January 14 - USCG, WVDEP, EPA, and the facility held a meeting to discuss USCG's boom deployment strategy, which was approved by WVDEP and EPA. WVDEP determined that the half-life of the chemical mixture is 28 days in soil; the half-life of the chemical mixture in water may possibly be 14 days or less. Customers in the four pressure zones of the water distribution system in immediate Charleston area and two additional zones just beyond were asked to flush their premises. At this time, nine GC/MS units are being employed to process the hundreds of samples in play. ORSANCO (Ohio Rover sanitation Commission) has been monitoring water concentrations to determine persistence of the MCHM plume in the Elk-Kanawha-Ohio drainage. US Fish and Wildlife Service has sought information from WV American on their discharges from flushing, presumably because of Threatened and Endangered species concerns. We understand that Senator Rockefeller has made a request to both EPA and ATSDR/CDC to conduct a joint study of the long-term public health effects of MCHM. During the morning briefing, personnel from the facility, USCG, WVDEP, CSB, EPA, and the Attorney General's office were present. The discussion was centered on preserving evidence for CSB's investigation. It was reported that the contractor found a hole, approximately the size of a quarter, in the bottom of the tank that breached.

Wednesday, January 15 - The West Virginia American Water Company has lifted the drinking water use restrictions in more pressure zones this morning. WVAWC reports that more than 51,000 customers (more than 50% of their approximately 100,000 customers, and more than half of the 300,000 persons served by the system) can now use their water for all purposes. ORSANCO reports that the leading edge of the plume was detected at 9:00 pm on January 14th at Meldahl Locks and Dam, at Ohio river mile 436. EPA OSCs met with a representative from US Fish & Wildlife arrived today to collect information for a possible Natural Resource Damage Assessment. WVDEP, USCG, and EPA approved the facility's proposal to install a French Drain along the base of the slope. The facility also deployed boom in accordance with USCG's strategy, which WVDEP and EPA approved. WVDEP requested that additional horizontal booms (absorbent) be placed inside the hard boom, which the facility agreed to complete. USCG removed the three mile safety zone restriction in the river. Commercial traffic will receive a broadcast alerting traffic of the boom at the facility.

Thursday, January 16 - ATSDR/CDC provided additional advice to the Bureau for Public Health regarding the target screening level used for clearing the West Virginia American Water Company (WVAWC) distribution system. While the 1 ppm level of methylcyclohexanemethanol (BCHM) is still believed to be protective, ATSDR/CDC recommended that pregnant women be advised that they may wish to seek an alternate source of water. WVAWC now estimates that 71,000 customers (of estimated 100,000) now can use water without restrictions. The Poison Control Center has been designated as a source of information for consumers concerned about health issues. FEMA has issued ATSDR a limited mission assignment to initiate an epidemiological study. The facility's contractor deployed horizontal absorbent booms inside the hard skimmer boom that extends from the property line down to the dock area. An oil/water separator is being used in an attempt to remove the MCHM from the water that is being vacuumed from the interceptor trench and dike area. The facility is also requesting a permit from WVDEP's air division to use an air stripper that extracts volatiles, followed by two carbon vessels, to capture the product. EPA's OSC attended a meeting at the US Attorney's Office (Booth Goodwin II). The main focus of the meeting was to ensure investigative agencies were coordinating with each other.

Friday, January 17 - The West Virginia American water company (WVAWC) has lifted the "do not use" order for the last customer area. Customers in the Clendenin area may begin flushing according to the established guidelines. However, the West Virginia American Water Company has advised the customers of three towns (Buffalo, Frazier's Bottom and Pliny) to not drink the water and have limited contact with their water because new water sampling results indicated additional flushing is needed. West Virginia American Water is also reporting that peak demand of water in the cleared areas may cause low water pressure, outages, and reduction in the amount of water available for fire protection. ORSANCO reports that concentrations of MCHM at Beckjord (approximately 10 miles upstream from Cincinnati) are now below estimated detection levels after peaking at approximately 18 ppb at 1/15/14 at 9 AM. WVDEP granted a minor permit modification to Freedom Industries allowing disposal of solid waste at the City of Charleston's Landfill. The MCHM solid waste was deemed non-hazardous according to RCRA. Approval was granted for disposal of 2,000 tons per year. Freedom Industries is awaiting WVDEP permit for the approval of treatment of the MCHM-contaminated water, via air

stripping and carbon treatment.

Saturday, January 18 - The West Virginia American Water Company is reporting that drinking water restrictions have been lifted in all water distribution zones with some exceptions. Precautionary boil water advisories are in place for several smaller groups of customers throughout the district after water storage tanks were depleted following excessive flushing activities. Additionally, the West Virginia American Water Company has not lifted the alert for three towns (Buffalo, Frazier's Bottom and Pliny). ORSANCO continues to monitor the plume. Water from tributaries to the Ohio are diluting the MCHM to low concentrations. Louisville, KY Zorn intake peaked at 3.5 ppb. MCHM was detected at 285 ppm in the water sample collected from the "seep" area at the northeastern end of the facility. The facility will extend the boom 20 feet upstream in the river to ensure that the seeped material is captured. EPA OSCs visited the Poca facility to investigate staging operations of the MCHM-contaminated water.

Sunday, January 19 - The West Virginia American Water Company has lifted the alert for three towns (Buffalo, Frazier's Bottom and Pliny). There may be precautionary boil water advisories in place for several smaller groups of customers throughout the service district after water storage tanks were depleted following excessive flushing activities or water line breaks. ORSANCO reported that concentrations at Louisville KY peaked at 3.5 ppb. The facility extended the boom approximately 20 feet upstream in the river so that it would contain the drainage from the additional "seep" that was located along the northeastern bank of the facility. Under WVDEP order, the facility's contractor hand-dug an extension to the existing trench to the end of the tank farm, at the northeastern end of the facility. In addition, the facility has hired an environmental consulting firm, CEC, to develop a remediation plan for the site, per the WVDEP order. ATSDR today was on site to consult with EPA and WVDEP.

Monday, January 20 - The West Virginia American Water Company's tests results show that MCHM readings in the plant's raw water and finished water have been non-detectable since Monday evening, January 13. The Water Company is conducting sampling throughout the distribution system to determine when non-detectable levels are achieved. The West Virginia Water Company is reporting that a majority of the samples collected in the distribution sample are non-detect. ORSANCO predicted that the plume will arrive at Henderson, Indiana at 05:30 AM, Jan. 20, and Mt Vernon, Indiana at 6:30 PM, Jan. 20. The focus of site operations continues to be controlling the on-site water and collecting contaminated water/product from the ditches and the collection trench. WVDEP, EPA, and the facility contractor walked the site to find a location where to pipe the runoff water that is flowing to the Site. The facility is receiving more double-walled tanks at the Poca facility to contain water from the site.

Tuesday, January 21 - The West Virginia American Water Company is continuing flushing and re-sampling until the samples show a non-detect level throughout the distribution system. The flushing and sampling will continue until all areas are determined to be at a non-detect level. An updated inventory of the remaining chemicals will be provided to the WVDEP tomorrow. The booms on the river appear in good condition and are not collecting any visible material. The Chapter 11 court hearing has delayed shipment of the Baker double-walled tankers. The tankers will not be released until after today's court appearance. The filing is extremely important for Freedom Industries to continue to operate and continue to meet WV DEPs requirements. If they

are unable to proceed with Chapter 11 filing for reorganization, then Freedom Industries will have to file Chapter 7 and discontinue the removal work.

Wednesday, January 22 - The facility continues to monitor the boom along the river edge to ensure the ice does not build up. There has been trouble with freezing in the tubes used for pumping out the sumps around the facility. Most of the sumps are frozen at this point, but water is still running on the outside of the secondary containment. The remediation contractor's, CEC, primary goal for today is to locate the source of the water and divert it around the facility property. WVDEP met with the facility about the remediation plan and locations for future sampling.

Thursday, January 23 - Today EPA is taking a sample of the MCHM/PPH mixture that is being staged at the POCA Blending Facility. This material was removed from Tanks 395, 396 (failed tank), and 397 at Freedom Industries. The material from Tank 396 was mixed with the other tanks went the material was taken off-site for storage. The facility stated that the MCHM/PPH ratio in Tanks 395 and 397 may differ slightly from that of Tank 396. The sample will be sent to Ft. Meade with delivery expected tomorrow. The facility announced that all the water pumped from the site will be taken to Big Run Landfill of Ashland, Kentucky. WVDEP suggested that Freedom Industries, WVDEP, EPA, and the Coast Guard meet to discuss the contents of Freedom's Remediation Plan.