UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGIONS 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JUN 2 8 2011

REPLY TO THE ATTENTION OF:

The Honorable Reid Ribble
House of Representatives
Washington, D.C. 20515

Dear Congressman Ribble:

This is a follow up to the U.S. Environmental Protection Agency's May 9, 2011 interim response to your April 5 letter about the Menominee River cleanup adjacent to Ansul Incorporated's Stanton Street facility in Marinette, Wisconsin.

EPA has completed its review of Ansul's proposed alternative to the approved sediment removal plan, and has concluded that it does not comply with our February 2009 administrative order. I have enclosed a copy of EPA's decision, which was sent to Ansul's parent company (Tyco Fire & Security) earlier this month. I have also enclosed responses to the questions raised in your April 5 letter.

Again, thank you for your letter. If you have further questions or would like to arrange a conference call to discuss EPA's decision, please contact me or your staff may contact Ronna Beckmann or Denise Gawlinski, the Region 5 Congressional Liaisons, at (312) 886-3000.

Sincerely,

Susan Hedman
Regional Administrator

Enclosures

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 100% Recycled Paper (50% Postconsumer)

U.S. Environmental Protection Agency Responses to April 5, 2011 Questions

1) *During the sediment remediation, will the public be prevented from using the River and Turning Basin for boating and fishing for the full length of the project? If so, has EPA considered other options to minimize the time period that use of the river will be disrupted?*

No, the remediation activity in the river will not prevent access to the river for boating and fishing for the full length of the project. The company, Ansul Incorporated, plans to phase the river work such that each segment will be impacted for a limited length of time. During sediment remediation, Ansul and EPA will proactively inform the public and commercial interests of the remediation schedule. Please note that the Administrative Order on Consent (AOC) requires that the sediment removal work must be completed by November 2013.

2) *Will local marine industries, such as Marinette Marine, be prevented from using the River and Turning Basin for the duration of the project?*

No, Marinette Marine will not be prevented from using the river and Turning Basin throughout the full length of the project. EPA has kept Marinette Marine apprised of the proposed remedial activity in the river and Turning Basin. EPA has told Marinette Marine that the work will be phased and of limited duration, and will be completed by the fall of 2013. We have learned from Marinette Marine that they only need to move their ships a few times each year. Ansul, in coordination with EPA, will work with Marinette Marine to develop work schedules with the intention of adapting the remediation schedule to their need to use the river.

3) *Will arsenic be released into the water body during the sediment remediation project? If so, what are the potential health concerns for the public and what options has EPA considered to minimize those risks?*

After carefully considering both short-term and long-term impacts associated with this environmental remediation project, we have determined that the removal of highly contaminated sediment is the best approach to initiating river recovery. Releasing some of the contaminants during active dredging is not unusual, and the best practices will be employed to minimize those releases and the associated risks. It should also be noted that ongoing arsenic releases to the river have been occurring for decades, and the Ansul project is designed to eliminate these ongoing releases. River water quality and air quality will be monitored during the dredging work, and the work will be temporarily stopped if the pollutant limits are exceeded.

4) *Will the Wisconsin Department of Natural Resources (WDNR) acute toxicity limit be exceeded in the Menominee River and Turning Basin during the process? If so, has EPA evaluated alternative sediment management approaches that will minimize resuspension and dispersion of the arsenic, such a capping, to reduce the impact on aquatic organisms?*

Yes, it is likely the WDNR acute toxicity limit will be exceeded occasionally during the sediment removal process; see answer to Question 3, above. EPA believes that these releases of arsenic to surface water can be substantially reduced by using the alternate sediment removal technologies described in the *Sediment Removal Work Plan* (SRWP), including the use of an environmental clamshell bucket (closed bucket). In addition, our June 3, 2011 approval letter adds a condition requiring the company to extend the area where sediment will be removed using "dry" techniques. EPA has also evaluated the alternative Ansul has proposed which involves capping. EPA has concluded that the capping of sediments contaminated with highly soluble and mobile organic arsenic salt is not a solution that would prevent future arsenic releases to the environment.

5) *If the sediments are dredged and the arsenic associated with these sediments is released, how does the mass release of arsenic compare to the amount being released under current conditions?*

The surface water quality standard for arsenic has already been exceeded in numerous samples of river water. Additional exceedances are expected during the dredging work, but the river water quality should improve substantially after the work is completed. EPA believes that the best option to protect human health and the environment is to remove most of the arsenic mass, especially when considering the extremely high concentrations and highly mobile, soluble nature of the organic arsenic.

6) *If dredging is required, where will the contaminated sediment that is removed from the river be disposed?*

The AOC gives the company the flexibility to select any appropriately permitted landfill for disposal of the dredge spoils. The SRWP states that the company currently plans to ship the waste to a landfill located about 40 miles away that is permitted to receive this type of waste.

a) *How will this material be transported to the disposal site?*

The AOC gives the company the flexibility to transport the dredge spoils by truck, rail or barge. The SRWP states that the dredged material will be transported via trucks.

b) *How many truck loads of this material will be moved through the Marinette and Menominee communities during the duration of the project?*

Our recent analysis indicates that between 14,000 and 19,000 truck loads would be required over the 2-year duration of the project. This means about 50 to 75 truckloads per day during the construction season, or about 6 to 9 truckloads per hour. The AOC gives the company the flexibility to select an appropriate route, provided that it complies with all state and local traffic restrictions.

c) *Has the EPA evaluated whether certain sediment management approaches reduce the amount of trucks that will be moved through the Marinette and Menominee communities?*

Yes, EPA and WDNR have considered other sediment management approaches. EPA believes that disposing of a large volume of arsenic-contaminated sediments in a new landfill on the Ansul property next to the Menominee River would not be an appropriate long-term disposal option. In addition, capping the sediment in place in the navigation channel and turning basin would not be practical due to the need to maintain the 21.5-foot depth of water needed for navigation. Furthermore, capping sediments containing highly concentrated, soluble and mobile organic arsenic salts is not likely to be an effective remedy.

d) *What measures has EPA taken to ensure the safety of local residents?*

In order to ensure the safety of local residents, EPA requires the company to transport the dredge spoils in compliance with all applicable federal, state and local laws relevant to contaminated environmental media. Please note that dewatered sediment (mud) is not a particularly dangerous material to transport, even though it might contain as much as 1percent arsenic. In addition, please note that while Ansul was making products from arsenic in the 1960s and 1970s, the products that were shipped to and from the facility contained higher concentrations of arsenic.

7) *Have you considered whether the installation of the slurry walls around the Ansul site that now stop groundwater transport to the river will allow the river to naturally recover over time through burial and dissolution?*

The contaminated groundwater was the final source of arsenic contamination to the river to be controlled. Much of the arsenic that is currently found in the river sediment was released decades ago. Wind and rain caused arsenic-bearing waste to enter the river from an uncovered pile near the shoreline of the river where Ansul stored approximately 95,000 tons of arsenic-containing wastes. We think that this waste pile was the major source of arsenic contamination in the river sediments. Arsenic also entered the river though the direct discharge of contaminated liquids to the river, and from contaminated groundwater discharging to the river. Despite the removal of the pile in 1978, and other improvements that have been made since Ansul stopped making an arsenic-based pesticide in 1977, the sediments in the Menominee River still contain arsenic concentrations in excess of 10,000 parts per million (ppm).

We think that the long-term cleanup goal of 20 ppm can be achieved within a reasonable time frame if sediments containing more than 50 ppm are removed, assuming that the release of additional arsenic from the Ansul facility has actually been stopped. The company is scheduled to take samples during 2011 to evaluate the effectiveness of the recently-constructed barrier wall.

In our discussions, the company has suggested that the upward flow of groundwater through the contaminated sediments might have already stopped upon installation of the barrier wall, but has not provided any data to support that suggestion. Even if we assume that upward flow of groundwater to surface water has stopped during calm and dry

weather, exceptional weather conditions such as flooding and seiches will generate energy gradients leading to groundwater flow and arsenic transport. In addition, man-made gradients induced by activities such as boat propeller wash, will also lead to arsenic transport. In the *Alternative Menominee River Sediment Remediation Plan*, Ansul submitted its own predictions of arsenic movement if a cap were to be installed over highly concentrated sediments instead of removing them. Ansul predicted that high concentrations of arsenic will potentially be discharged to the river for hundreds to thousands of years.

During the course of dredging the highly contaminated sediments that exceed 50 ppm, the company will submit a detailed plan for using monitored natural recovery to achieve the long-term cleanup goal of 20 ppm of arsenic.

a) *Was this formally evaluated? If not, why not?*

Ansul did not provide a formal evaluation of monitored natural recovery as a "stand-alone" alternative. We did not require the company to provide such an analysis because we do not think that it would be productive. There is some urgency to address this situation because surface water sampling data shows exceedances of surface water quality standards. Furthermore, the Wisconsin state ecological health guidelines for arsenic in sediment are also being exceeded. This means that benthic organisms are being exposed to unacceptable arsenic concentrations. An EPA analysis indicates that unacceptably high concentrations of dissolved arsenic would remain in the biologically active zone of the sediment for an extensive period of time (centuries) in the absence of active sediment removal.

b) *Assuming control of all groundwater gradients to the river, what is the estimated annual flux of arsenic from these sediments?*

Ansul did not provide an estimate of the current annual flux of arsenic from the sediments, and we did not require the company to provide that analysis because we do not think that it would be productive for the reasons described in our answer to Question 7 (a).

c) *How does that annual mass flux compare to the mass of arsenic that will be released during the dredging of the sediments?*

Ansul did provide estimates of the mass of arsenic that could be released during the 2-year dredging period, but we do not have an estimate of the current annual flux of arsenic from the sediments for comparison as stated above.

However, EPA always weighs both short-term and long-term consequences to the environment of any remedial proposal and we strongly believe that removal of highly contaminated sediments associated with highly mobile and soluble arsenic salts is the best solution at the Ansul site. As discussed above, arsenic losses during dredging will be minimized through the selection and implementation of the best sediment removal practices, and by the extension of the area where dry excavation is feasible.