CONCURRENT SESSION 6 – BIOLOGICAL AGENT DECONTAMINATION

Questions and Answers

- **Anonymous:** Question for Shannon: The MB and PAA decontamination treatments showed similar results. Which decontamination technology would be easier to deploy operationally during a contamination incident?
    - **Shannon Serre, U.S. EPA:** Each situation will be different. PAA is very simple. At the end of the day, you do not have to worry about capturing the gas on activated carbon. MB is regulated under a protocol, and you must have a licensed fumigator to apply it. If you are in an uninhabited area and you do not have to capture an activated carbon, that is one case. Another case is having to capture a large volume of carbon. In the case of this, the small vessel decontamination, it is much easier to apply the PAA.
- **Anonymous:** Question for Shannon: What logistical challenges did you experience as you were doing the decontamination sampling?
    - **Shannon Serre, U.S. EPA:** Logistically, MB, because it is regulated, is harder to get. There was the pre-2005 stockpile that could be used for other applications. For this case, you would have to get a crisis exemption. We had to get the pre-2005 stockpile which was going for about five times the average rate. There is an industry available to help you buy tarping.
- **Anonymous:** Question for Rachael: (1) I could not see the legend labels because of the camera location, and (2) Why was two hours chosen if this is not indicative of EPA dwell times for disinfection (less than 10 min)?
    - **Rachael Hardison, Battelle Memorial Institute:** In our study, we had two different application times. Right after we put the virus on the coupon, or two hours after we put the virus on the coupon. That allowed the virus to dry onto the coupon surface. This is relevant to being in the community where an individual sneezes on a surface and it is not cleaned right away. We did two different studies, where we cleaned it immediately after or let the chemical sit on the surface for recommended contact time by EPA.
- **Anonymous:** Question for Rachael: I may have missed it, but what is in CDC bleach and Clorox 360, i.e., what are the disinfecting agents, what is their concentration, and what was the pH?
    - **Rachael Hardison, Battelle Memorial Institute:** The CDC bleach recipe is sodium hypochloride, which is the typical bleach you can buy at the store that was diluted, 1/3 cup per 1 gallon of hard water. PH, we did not test before we used them. The Clorox 360 is an ammonium compound. That was not diluted, according to manufacturer recommendations.
- **Anonymous:** Question for Jonathan: You noted that the results for the misting showed that there was likely adhesion of the spores to the concrete surface. Do you think you would still see this potential adhesion to the concrete surface with a heavier rainfall?
    - **Jonathan Thornburg, RTI International**: Maybe a little, but from Anne Mikeonis' research, from EPA, there could be some, but runoff is more likely.
- **U.S. EPA:** Question for Jonathan: Thank you for your presentation. You had mentioned some surface sampling for the outdoor coupons over time; did those show loss of recovery of spores over time?
    - **Jonathan Thornburg, RTI International:** We hope to conduct some additional outdoor surface sampling, pending available funding.

- **Anonymous:** Question for Jonathan: Have you considered the surface functional groups of asphalt and concrete? Specifically, please comment on the hydrophilic and hydrophobic groups and interactions between the surfaces and the spores that are resuspended.
    - **Jonathan Thornburg, RTI International:** I did some research on this back in early 2010's. It was not part of this research. I do not know off the top of my head.
- **Anonymous:** Question for Jonathan: How was the wind tunnel apparatus cleaned and/or decontaminated between runs?
    - **Jonathan Thornburg, RTI International:** We sprayed it with the high percentage ethanol solution and wiped it down 3 times. We did blank samples after every experiment.
- **Anonymous:** Question for Dan: When do you expect development of the ClO_2 occupied space device to be completed?
    - **Dan Lorch, METSS Corporation:** We have about 1 year of funding we want to do an iteration of this prototype. We want to add in automation. We are going to bring this to EPA and get a protocol together on how we want it to be tested to define our claims. We have a functional prototype now, but we are working on modifications and improvements for the next generation.
- **Anonymous:** Question for Dan: What are your thoughts regarding generation of 0.1 ppm of ClO_2 in occupied spaces and safety? Since the OSHA PEL is an occupational exposure limit and the initial tests were conducted at 0.1 ppm, are there plans to test at a lower level?
    - **Dan Lorch, METSS Corporation:** Yes, absolutely. The system we use right now, we thought we should test at 0.1 ppm. We are getting positive results, and then we will step down. We just got in a calibration device to calibrate sensors lower than 0.1 ppm. Once we are confident that we are measuring at that low level, then we will continue our bioaerosol tests. If we would implement this, it would likely be at a 50 ppb range.