Miller, Diane M. (CDC/NIOSH/EID)

From: Mike.Bott@RVDinc.com
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To: NIOSH Docket Office (CDC)
Cc: Chen, Jihong (Jane) (CDC/NIOSH/EID) (CTR); Doyle, Glenn (CDC/NIOSH/EID)
Subject: 128 - FiringRangesAlert Comments

Name
Michael Bott

Organization
Range Ventilation Design, Inc.

Email
Mike.Bott@RVDinc.com

Address
17 Regent
Lincolnshire, IL 60069
USA

Comments
In regard to range ventilation systems, recirculation systems can provide a means of heat recovery (heating and cooling) in extreme climates. We have designed systems for the military and others clients that utilize total particulate meters within the downstream side of the supply duct (after the multi-stage HEPA filtration) to indicate when particulate levels exceed certain limits. You can't be sure the particulate is lead but you can make that assumption to play it safe. Another safety measure that we incorporate and find very economical is to monitor and shut down the range ventilation system when the pressure drops across any of the 2-3 stages of filtration is too low (each stage monitored independently). For example, a 99.997% HEPA filter with a pressure drop below 0.10 inches of water column is an indication that one or more filters are missing. I can 't tell you the number of ranges we see where the filters on a recirculation system have been removed or have fallen out due to the age of the filtration equipment. The blow-by is also significant where the total particulate meter or lack of pressure drop across the filter would sense this situation. Carbon Monoxide are recirculation systems is also something we monitor and alarm in real time. It also can be very dangerous (acute time frame) with rapid fire on large calibers... Please feel free to contact me with any questions. We have been in this business since 1996 and have designed and installed a significant number of indoor shoooting range ventilation systems on fixed and mobile facilities. We work closely with Randy Jackson.