



THE MONITOR

Tracking Emerging Regulations & Technologies on Active Assessment & Remediation Projects

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Significant changes are in effect for dischargers of PCBs PCB TMDL's Are Here!

A set of total maximum daily loads (TMDLs) for polychlorinated biphenyls (PCBs) has recently been proposed for the tidal portion of the Delaware River (i.e., the Delaware Estuary) that will significantly affect responsible parties for PCB-impacted sites and industrial dischargers of PCBs. Environmental Alliance, Inc. attended an informational meeting on this issue that was hosted by representatives from DNREC, USEPA Region III, and the Delaware River Basin Commission (DRBC) on September 22, 2003. The purpose of this meeting was to provide details concerning the development and implementation of the proposed TMDLs. Attendees included members of the regulatory agencies involved with the TMDLs and interested industrial and municipal representatives.

Background

PCBs are chemically-stable, non-flammable compounds with high boiling points and electrical insulating properties. Because of these properties, PCBs were used in hundreds of industrial applications. As examples, PCBs were used in electrical, heat transfer, and hydraulic equipment components, as plasticizers in paints, plastics, and rubber products, and in pigments, dyes, and carbonless copy paper. PCB-laden oil is also frequently associated with electrical transformers.

Routes of entry into the environment include spills to soil and water, as well as vaporization into the air. PCBs tend to be hydrophobic and therefore accumulate in sediment and bioaccumulate in plant and animal tissues upon release into the environment. PCBs are classified as a probable human carcinogen by the USEPA. In addition, exposure to PCBs may result in developmental, neurobehavioral, reproductive, and immunological effects.

In the late 1980s, Delaware, New Jersey, and Pennsylvania began issuing fish consumption advisories for portions of the Delaware Estuary due to elevated concentrations of PCBs detected in fish tissue. In 1998, these three states finally included the Delaware Estuary on the Section 303(d) list of impaired waters due to these elevated concentrations of PCBs. This listing is required under the Clean Water Act when water quality standards, including a numeric criterion and a designated use ("fishable waters" in the case of the Delaware Estuary), are not obtained despite the technology-based control of industrial and municipal wastewater (point sources). The Clean Water Act also requires that TMDLs be developed for listed waters. A TMDL expresses the maximum amount of a pollutant that a water body can receive and still attain standards. Once the load is calculated, it is allocated to all sources in the watershed – point and nonpoint – which must then reduce loads to the allocated levels to achieve and maintain applicable water quality standards.

The basic steps involved in the development of a TMDL for a watershed include data collection and analysis, TMDL calculations, as well as and public and USEPA approvals of the proposed TMDL.

TMDL Development

There are five basic steps involved in the development of a TMDL for a watershed. These steps include: 1) Data collection (pollutant loads, sources, etc.) for impaired water bodies listed on the Section 303(d) list, 2) Data analysis, 3) TMDL calculation for impaired water bodies, 4) Public review and comments, and 5) USEPA approval of the proposed TMDL. In 2000, at the request of Delaware, New Jersey, Pennsylvania, and the USEPA, the DRBC, in consultation with its Toxics Advisory Committee, took the lead in developing the technical basis for the Delaware Estuary PCB TMDLs. In March 2001, a strategy to address contamination of the Delaware Estuary by PCBs (the PCB Strategy) was developed. The PCB Strategy consists of nine elements that are intended to: identify water quality targets and calculate the TMDLs; characterize PCB sources,

Continued on next page

Topics Presented

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PCB TMDL's ARE HERE! • Continued from page 1

concentrations, and pathways in the estuary ecosystem; model the transport and fate of PCBs in the estuary ecosystem; develop an implementation plan to reduce PCBs entering the estuary; and increase public awareness of toxicity issues in the estuary. Several coalitions of NPDES permittees have also been formed in an effort to protect the interests of industrial and municipal dischargers during the TMDL development process.

TMDL Implementation

The development of the PCB TMDL for the Delaware Estuary is scheduled to be completed by December 15, 2003. This deadline resulted in a decision to use a staged approach that will provide for adaptive implementation through execution of load reduction strategies while additional monitoring and modeling efforts proceed. The Stage 1 and Stage 2 TMDLs will each comply fully with EPA requirements and guidance. EPA regulations implementing Section 303(d) of the Clean Water Act provide that a TMDL must be expressed as the sum of the individual wasteload allocations (WLA) for point sources plus the load allocation (LA) for nonpoint sources plus a margin of safety (MOS) (i.e., TMDL = WLA + LA + MOS). The Delaware Estuary has been divided into various water quality management zones, and a separate TMDL has been developed for each of these zones. A

TMDL Implementation Advisory Committee (IAC) has been established to develop strategies over the next two years for reducing PCB loads to the Delaware Estuary and achieving the TMDLs.

Potential Impacts

The principal sources of PCB loadings are contaminated sites, nonpoint sources, and point sources. PCB-impacted soil, water, and air all contribute to these loadings, and the current data indicates that existing loadings are roughly two to three orders of magnitude higher than the TMDLs. The TMDL IAC plans to meet over a two-year period to develop creative and cost-effective strategies for achieving load reductions in the short term and attaining water quality standards in the longer term. However, the same properties that made PCBs stable for industrial applications make them persistent (and difficult to treat) in the environment.

Many challenges will face industrial and municipal dischargers in the months following the December 15, 2003 deadline, when the new PCB TMDLs for the Delaware Estuary will begin to take effect. Environmental Alliance, Inc. has extensive experience in the remediation of PCB-impacted sites and the treatment of PCB-impacted water, and also offers expertise in the litigation process that often accompanies PCB management issues. For more background information on this issue, you can visit the DRBC website at www.state.nj.us/drbc/. If you would like general information on PCB management strategies or are concerned about a particular PCB issue faced by your organization, please contact Matt Geary at Environmental Alliance, Inc.

NOTICE

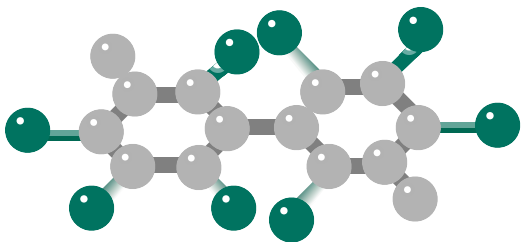
NJ Natural Resource Damage Claims are Being Assessed

If you have a Classification Exemption Area (CEA) then NJDEP will file a Natural Resource Damages (NRD) claim against you, most likely by December 2005. We would be pleased to meet with you, free of charge, to let you know the approximate dollar amount of the NRD claim and how you may be able to lower that amount by being proactive. For a small fee, we would prepare a cost analysis of active versus passive remedial approaches for your site.

Included in the analysis will be a comparison of the anticipated NRD amount for both approaches. If you choose to implement the active scenario, our initial fee will be waived, provided you hire us to do the work. If not, for a nominal fee, you will have a piece of mind knowing what the approximate amount of the NRD claim against you will be.

For more information or to schedule an appointment please call our NJ office at 732-537-0250.

If you need a consultant who can handle your Environmental Engineering/Consulting, Site Investigation, Remediation, Permitting, RI/FS, RFI, Compliance, and Due Diligence at a competitive price with superior service, give us a call at 302-995-7544. We provide turnkey service combined with a professional staff.



PCB Molecule.



Mold: A Growing Environmental Concern

By Mike Craskey

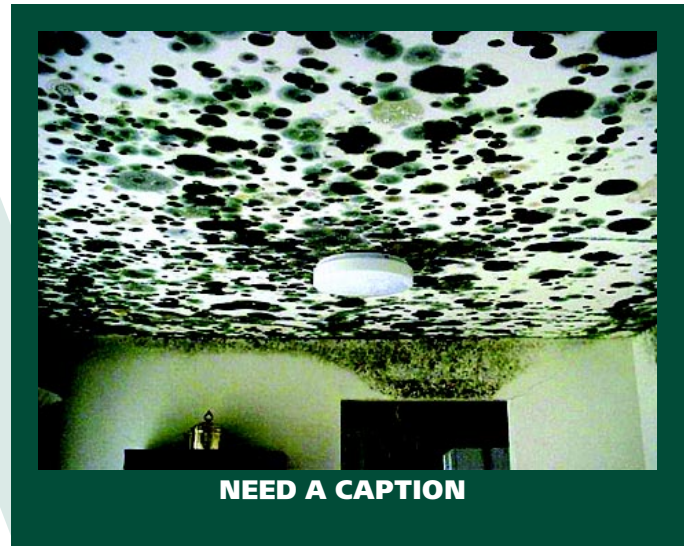
When it comes to hot topics in the environmental industry, mold is at the forefront. Several shows such as 48 Hours, 20/20, and 60 Minutes have run episodes on mold. With titles like "Invisible Killers" and "Killer Mold" there is no question why the public has become concerned. Mold first gained national attention in 1998, when the Ballard family began experiencing health issues directly related to mold contamination and successfully sued their insurance company for \$32 million. Since January of 2003, an estimated 25,000 mold cases have been reported nationwide.

Mold Fate and Transport

Mold spores range in size from 5 to 30 microns, which is approximately 20 times smaller than the average raindrop. As such, mold spores can become airborne with minimal disturbance. Spores infiltrate structures through open windows, doors, cracks, and via human and animal transport. Once spores have infiltrated a structure, they will remain dormant until they encounter a suitable environment for colony growth.

Interpreting Mold Sampling Results

At this time, there are no mold-related regulations or guidelines. No permissible exposure limits (PELs) have been set and health risks associated with mold have not been fully recognized. Because PELs do not exist, only qualitative analysis of mold spore concentrations in indoor ambient air can be conducted. To aid in the decision-making process at mold-impacted or suspected mold-impacted sites, Alliance has developed a screening process using a pass/fail rating system. The rating is determined by comparing the results from the outside sample/s (OS) and inside sample/s (IS). Interpretation of results involves comparing mold specie diversity (MSD) and mold spore counts (MSC). MSD is the number of mold species found within a sample, whereas the MSC is the number of individual spores per specie identified. A pass rating is given when the MSD and MSC are lower in the IS than the MSD and MSC in the OS. A fail rating is given when the results indicate

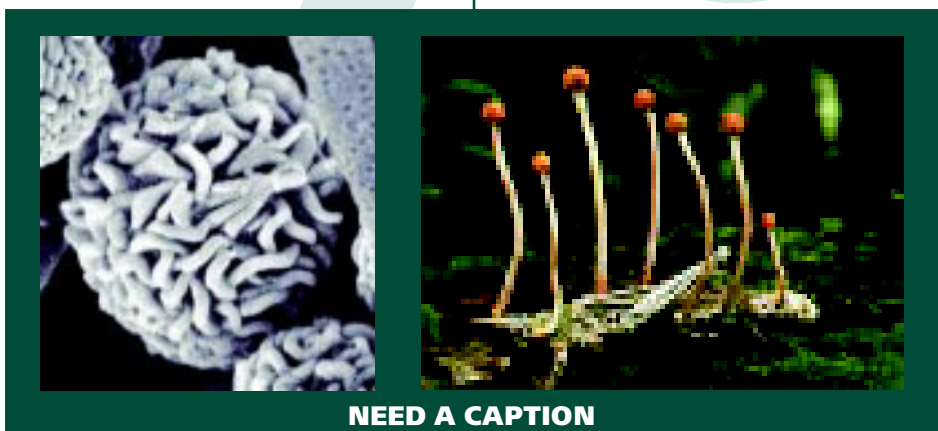


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a higher MSD or MSC in the IS opposed to the OS. However, should the MSC per common specie be higher in several but not all of the IS and be within 10% per common specie of the OS a pass rating will be given as long as the MSD is lower in the IS.

Professional vs. Home-Sampling Kits

An alternative to professional sampling is home test kits. There are several disadvantages to home test kits. For example, home test kits take approximately 96 hours to complete and sample a limited volume of air. Professional sampling takes 10 minutes per air sample and samples a representative volume of indoor air. Results for home kits take approximately 10 days, where professional sample results are turned around in 72 hours. Professional sampling also provides clients with a professional interpretation of sample results. When it comes to mold sampling and reliable data, home test kits fail to make the grade. If you would like more information on mold and mold sampling please contact Dan Goodwin in the Virginia Office at 540-834-4616 or via e-mail at dgoodwin@envalliance.com.



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Two New PEs for Alliance



Congratulations to Valerie Phipps and Chris Underwood who both recently received their Professional Engineering certification in DE. Pictured is the Alliance staff congratulating (with silly string) Val and Chris at a recent staff meeting. Both Val and Chris commented that they would think twice before going for the PhD.