

The RT Review

The Latest on Environmental Issues From Your
Solution-Oriented Environmental Services Firm

• Environmental Engineers & Scientists • Geologists • Remedial Contractors



SWITCH TO WET CLEANING BENEFITS DRY CLEANERS

Dry cleaners in two California counties who switched from chemical solvents to professional wet cleaning regard it as a good business decision and would recommend it to others, according to a new Occidental College study.

Each of the five owner operated cleaners in the study - the first to assess the viability of the switch to wet cleaning by multiple cleaners - reported that they were able to process the full range of garments they had once dry cleaned, maintain comparable levels of customer satisfaction, and cut their operating costs.

The study by Occidental's Pollution Prevention Education and Research Center (PPER), comes on the eve of a November 1 vote by the board of the South Coast Air Quality Management District (AQMD) on whether to become the country's first air quality agency to require dry cleaners to phase out the use of perchloroethylene (perc).

A chemical cleaning solvent used by 85 percent of all dry cleaners, perc is classified as a toxic air contaminant and a major groundwater pollutant in Southern California.

Through these five case studies, we have learned about the keys to making a quick, smooth, and successful transition to wet cleaning," said Peter Sinsheimer, PPERC director and senior author of the report.

Professional wet cleaning is one of several alternatives to the use of perc. Introduced in Germany in 1991, it is a non-toxic, water based system that uses computer controlled washing and drying machines, biodegradable detergents and specialized finishing equipment to clean wool, silk, rayon and other delicate fibers often labeled "dry clean only."

The five cleaners who participated in the study have anywhere from two to 27 years previous experience as conventional dry cleaners and all had serious reservations at first about making the switch to wet cleaning - concerns that it might increase shrinkage, be more time consuming, or less effective.

But after making the switch, each of the five" considered switching a good business decision, a fact that reflects their confidence in the quality of wet cleaning and their confidence in the system's financial viability," the report states.

The PPERC report is available at:
<http://departments.oxy.edu/uepi/pperc/resources/index.htm>
(*Environment News Service - 10/30/02*)

PA SAFE FILL REGULATIONS MOVE TOWARD FINALIZATION

At *RT Review* press time, the Pennsylvania Department of Environmental Protection (PADEP) proposed Safe Fill Regulations were moving toward finalization. In the closing of the months of the year 2002;

- More than 100 sites were applying for general permits, after the DEP made available a new state wide general permit to allow for the maximum recycling of recycled asphalt pavement into sub-base, shoulder back-up and cold mix products. This major move by PENNDOT and the highway construction industry addresses any concerns that highway construction materials were not being managed in accordance with the residual waste regulations.

- On behalf of the Pennsylvania Pavement Association, RT Environmental Services, working with Dennis Stainken, PHD, prepared an alternative "bioavailability" demonstration approach for meeting statewide health standards for arsenic. DEP's current direct contact standard for 12 milligrams per kilogram, has been criticized as being set too low, below background levels of arsenic in soils in many instances. Use of an alternative "bioavailability" test to demonstrate attainment with the statewide standards would help resolve the key remaining technical concerns regarding the Safe Fill regulations, that contractors would have to manage large volumes of soil as waste even though they're not really affected by "releases". The "bioavailability" leaching procedure has been used at several sites in NJ, gaining NJDEP approval, in some instances, to support residential development. PADEP will consider the approach in the next several months as an alternative attainment approach and it is hoped that DEP approval is gained for the bioavailability leaching approach such that this tool will be available early in the 2003 construction season.

- DEP was planning to publish in the *PA Bulletin*, an Advance Notice of Final Rulemaking, after which there would be one final sixty day comment period, and possibly, public meetings. The final regulations would then come into effect early in the construction season, perhaps between March and June.

DEP has also been conducting outreach among various construction industry trade associations. Although Safe Fill materials management is a controversial issue, it is also true that there is a "plus side" for contractors after the regulations become finalized. Each year there have been a number of

instances of litigation against contractors, who moved materials they thought were "clean" to other sites, only to find out that the material was contaminated and could be considered waste. In other instances, contractors were assured that the material was "clean", but when it was found out that the material was contaminated, illegal disposal was alleged to have taken place.

Although many smart site owners have taken their sites through the Act 2 Land Recycling Program, finalization of the Safe Fill regulations will give another tool to earthwork, utility, and site work contractors to force owners to properly test materials, well in advance of contracting, so as to avoid liability, costly fines and large cost increases during the work at the site. Under the Act 2 program, there are also advantages where mildly impacted materials can be moved between Act 2 sites, with DEP approval. One site developer in Philadelphia saved nearly \$200,000 in commercial facility site work by taking advantage of the Act 2 program. More options will be available under the Safe Fill regulation permit by rule provisions to facilitate such reuse of materials in the future. To take advantage of these options, it essential that owners plan now to follow the regulation and test sites in advance, as is already being implemented on many major projects.

As a reminder, the 1996 Clean Fill Guidance Document issued by DEP, remains in effect; as was noticed in the *Pennsylvania Bulletin* last year, this document can be used in conjunction with the current residential state-wide health standards. If you would like a copy of the current limits that have to be used, or if you would like a summary of the proposed Safe Fill regulations, which all contractors need to be aware of, please stop by our web-site at www.rtenv.com, or call us at 800-725-0593.

We will shortly be announcing a final round of training sessions throughout Pennsylvania, to be held in late February or early March, to review all final elements of the Safe Fill regulations, based on the Advance Notice of Final Rulemaking which is expected to be issued shortly. To make sure that you receive a copy of the seminar announcement, please call Valerie Powers at 610-265-1510, ext.24.

TABLE OF CONTENTS

Staff and Project News	2
Federal Regulatory Updates	4
PA Updates	8
NJ Updates	11
Technology Updates	13

Directory

Corporate Headquarters

215 West Church Road
King of Prussia, PA 19406
Phone: (610) 265-1510
FAX: (610) 265-0687

E-mail: RTENV@AOL.COM
World Wide Web: HTTP://RTENV.COM

24 HOUR

URGENT LINE SERVICE

800-725-0593

Gary Brown, P.E., President

Phone: (610) 768-0232

E-mail: GBROWN@RTENV.COM

Walter Hungarter

Phone: (610) 265-5599

Engineering Group Manager

E-mail: WHUNGARTER@RTENV.COM

Chris Orzechowski, P.G.

Phone: (610) 265-5572

Hydrogeology Group Manager

E-mail: CORZECHOWSKI@RTENV.COM

Peter Malik

Phone: (610) 265-1510 Ext. 31

Remedial Group Manager

E-mail: PMALIK@RTENV.COM

New Jersey

Tom Brady

E-mail: TBRADY@RTENVNJ.COM

Vice President

Suite 306, Pureland Complex

510 Heron Drive, P.O. Box 521

Bridgeport, NJ 08014

Phone: (856) 467-2276

FAX: (856) 467-3476

Reading

Jade Simmers

E-mail: RTRDG@AOL.COM

2917 Windmill Pond, Suite 1

Sinking Spring, PA 19608

Phone: (610) 927-3300

FAX: (610) 927-1770

Regional Partners

California

Bob Smyth

Phone: (856) 795-8235

FAX: (856) 795-4514

Massachusetts

Andy Irwin

Phone: (508) 653-8007

FAX: (508) 653-8194

Michigan

Michael Carlson

Phone: (248) 585-3800

FAX: (248) 585-8404

North Carolina

Ed Kuhn

Phone: (336) 852-5003

Ohio

Ron Clark

Phone: (330) 375-1390 Ext. 207

Virginia

Edward Berg

Phone: (757) 599-6985

FAX: (757) 599-3501

International

Bermuda

James Burnett-Herkes

Phone: (441) 234-7214

STAFF AND PROJECT NEWS

RT's staff remains busy early in 2003. Peter Malik and Jade Simmers were wrapping up a microbial (mold) remediation project, in a Delaware high rise apartment building, which had been impacted by water leakage following a roof damage wind event. A large number of senior RT staff, including Gary Brown, Tom Brady, Peter Malik and Jade Simmers, as well as Walter Hungarter and Chris Eyre, were wrapping up new training for mold investigation and remediation, as need for these services is currently growing rapidly. RT held a two-hour seminar on mold in mid-December at the Adams Mark Hotel, which was exceptionally well attended; more than 70 lending institution, property owner and manager, maintenance and engineering officials attended.

As coverage for mold incidents continues to be removed at the time of renewal of most insurance policies, leading legal counsel, addressed seminar participants. David Garrison, Esq. of Stevens & Lee, Douglas Schleicher of Klehr Harrison advised building owners and managers that they need to have programs in place to address tenant concerns and complaints to assure that indoor air quality issues are not of concern in buildings. RT is already representing several clients as expert witness, in cases where prior knowledge of mold problems was alleged, by sellers; unfortunately, realtors in addition to the sellers were also named in the litigation.

In other updates:

1. Tony Alessandrini and Walter Hungarter are hard at work on a series of beneficial use general permit applications, for highway construction contractors throughout Pennsylvania Registration under a new DEP statewide general permit will allow increased recycling of asphalt - Americas most recycled material. Work is being coordinated through the Pennsylvania Asphalt Pavement Association.
2. Chris Eyre completed work at two NJ sites, where building occupants complained of suspected indoor air problems. In both instances, findings of mold amplification were found and appropriate actions were recommended to building owners and managers.
3. RT finalized an agreement with a nation-wide drug retailing concern, for work in the NJ/PA region. Increasingly, new retail establishments are being located at Brownfield sites, which were formerly the location of service stations, dry cleaning facilities, and similar businesses.

RT was introduced to the national retailer after successfully completing work at a number of sites, being handled by regional development concerns. RT demonstrated success in using the widely acclaimed Pennsylvania Act 2 Land Recycling Program, to facilitate environmentally acceptable site reuse, and making use of impacted materials cost effectively.

4. Chris Orzechowski and Craig Herr were continuing work at two Act 2 sites, where dry cleaner perchlorethylene releases were found in suburban shopping center facilities, where transactions were planned. RT concluded site investigation work, review of the investigation findings with respect to Pennsylvania's new vapor intrusion guidance, sensitive receptor well search activities, and recommendations for "hot-spot" remediation, at one facility where concentrations of perchlorethylene in impacted soil and groundwater would not be expected to allow attainment and a "plume stability" demonstration, unless "hot-spot" remediation were conducted.

5. Jason Free and Rafael Torres were working on a series of Phase 1 Environmental Site Assessment assignments in Maryland and New Jersey. Recommendations were made regarding the management of asbestos containing material and to investigate historical fill, at a Maryland site, which was formerly a sand and gravel operation. Maryland has seen increasing incidences of problems related to back-fill of former sand and gravel operations along the I-95 corridor. One of RT's principals is acting as an expert witness in a case near Baltimore.

6. Gary Brown was finishing work with Jim Smith, PHD of Trillium, Inc., on a presentation scheduled to be held in late February at the American Academy of Forensic Sciences Annual Meeting in Chicago. The presentation is on a retail petroleum facility release which was not addressed as required, before an off-site water supply at a shopping center was impacted by constituents. Although analytical results were not always favorable to demonstrate impact, and because delineation information was incomplete, a legal and technical approach combined with expert witness testimony was successful in reaching an appropriate resolution, and settling the case.

RT looks forward to the continued opportunity to be of service to our clients in 2003, bringing the best mix of technical professionals to each job, helping to ensure project success!

BOMI Approves Council Certification

The Building Owners and Managers Institute (BOMI) has approved the American Indoor Air Quality Council's Certified Indoor Air Quality Manager (CIAQM) study/review course for 20 Continuing Professional Development (CPD) points for BOMI Institute graduates with the Real Property Administrator (RPA), Facilities Management Administrator (FMA) and Systems Maintenance Administrator (SMA) designations. Since its founding in 1970, BOMI Institute has been a leading provider of adult education programs for commercial property professionals. BOMI Institute and BOMA International are two separate organizations. BOMI Institute is a nonprofit organization that develops and provides education programs for commercial property professionals. BOMA International is a nonprofit membership association located in Washington, DC. See the BOMI web site at www.bomi-edu.org for more info.

WRITING THEM OFF - INSURERS ARE MOST LIKELY TO DENY OR CANCEL COVERAGE FOR HOMES - MOLD IS A KEY ISSUE

When it comes to homeowners insurance, honesty, it seems, is more likely to result in a policy.

At least that is what sellers and buyers are finding these days, according to real estate agents. Insurers are cautious about writing new policies just about everywhere, as if they are not abandoning states, they are making what they do offer more costly.

In addition, they are scrutinizing sellers and buyers much more carefully to check for things that might increase risk.

It seems the sellers forgot to mention claims they had made for water related damage on the disclosure forms.

People wanting to live in low and moderate income neighborhoods in Philadelphia and other older cities have long had trouble with obtaining comprehensive homeowners insurance at reasonable prices.

Over the years, owners of houses with flat roofs - as common as bricks in the city of row-houses - have been rejected, said Christopher J. Ryan, a broker with the Prudential Fox & Roach in the Art Museum area. Insurers have become stricter.

According to Robert P. Hartwig, vice president and chief economists of the Insurance Information Institute in New York, it "is the extraordinary number of catastrophes, the high cost of home repairs, the aging of the U.S. Housing stock and the emergence of mold claims that are pushing homeowners insurance rates upward."

Mold claims- virtually non-existent a few years

ago - cost homeowners' insurers more than \$1 billion last year, about five times the cost in 2000, Hartwig said.

But that is not the whole story. Insurance experts and the National Association of Realtors suggest that, to compete for business, companies kept premiums artificially low in the middle to late 1990s, using high returns from Wall Street investments to make up the difference.

So, "if", as Hartwig contends, "homeowners' insurers over the past decade paid out \$1.18 in losses and expenses for every \$1 they earned premiums," such pay-outs didn't begin affecting the bottom line until investment income bottomed out.

In 2001, homeowners insurance paid out \$8.9 billion more in losses and expenses than they received in premiums, Hartwig said. It was the second worst year on record (1992, and Hurricane Andrew produced \$11.5 billion in losses).

Texas has been particularly hard hit by premium increases and insurance company pullbacks spurred by the multimillion dollar Ballard case, in which a jury decided that Farmer's Insurance Co. - which with Allstate and State Farm, writes 66 percent of Texas' policies - had mishandled a family's claim for black mold damage to their house.

Farmers was going to pull out of the state entirely, but reached a compromise with the Texas Insurance Commission late last month that ended the threat for now.

Including the Ballard decision which is being appealed, Texas mold claims in 2001 cost insurers more than \$850 million, compared with virtually nothing just a few years earlier, Hartwig said.

The number of mold claims in the state increased by 1,300 percent between the first quarter of 2000 and the fourth quarter of 2001, while insurer pay-outs through the third quarter of last year increased 1,200 percent, Hartwig said.

"Runaway costs associated with mold claims are having an adverse effect on the availability and affordability of homeowners insurance in Texas, and increasingly in other states," Hartwig said.

California, for example, has seen a large spike in water-damage claims, which often give rise to mold claims. Water claims accounted for 32 percent of all claims in 2001, up from 24 percent in 1997.

Over the same period, the average claims surged from \$2,537 to \$4,730, Hartwig said.

To weed out potentially troublesome customers, insurance companies have been turning to a resource that has been around since the late 1980s but was little used until the 1990s. It is called CLUE, which stands for Comprehensive Loss Underwriting Exchange. The computerized system, used by about 90 percent of underwriters, is a database of claims made by consumers.

It is through CLUE that insurers found out about the oversights on the two disclosure forms in Paoli.

(By Alan J. Heavens - *The Philadelphia Inquirer* - 12/15/02)

FIBERGLASS GASOLINE TANK SYSTEMS ARE SUSPECT SOURCES OF MTBE VAPOR RELEASES

New studies of MTBE in California are suggesting that fiberglass underground storage tank systems may be the source of MTBE contamination in groundwater. Studies completed by the University of California, and new tracer type testing conducted at several hundred service station sites indicate that vapor releases of MTBE into soils have occurred at more than 60% of upgraded service stations. The mechanism for groundwater contamination is that once the MTBE vapor releases into soils, infiltrating rainwater interacting with the vapor contaminates the groundwater.

The studies did not find that there were many "liquid" releases from underground storage tank systems. However, there is no current accepted methodology for testing fiberglass tanks and piping systems for MTBE vapor permeation. Vapor appears to be leaking near the tank top/fill areas. Upon urging from Florida Environmental Officials, EPA officials are now taking a more serious look at this issue.

The California studies cause one to question why Stage II vapor recovery systems, were forced upon the petroleum industry, without testing to determine whether or not fiberglass piping systems could contain vapors. (Stage II vapor recovery systems return vapors from fueling to tanks with a vacuum assist.) It appears that the problem is that after MTBE gained favor as an oxygenate tank/piping system vapor releases became critical because MTBE vapors released into soil simply are not readily biodegrade. It is very disappointing that so many regulatory and technical changes were implemented without adequate environmental engineering studies and materials compatibility testing for a product, gasoline, which is ubiquitously used throughout the Country.

Impacts on the Industry

The California studies have been driven mainly by the new 0.005 gallon per hour (gph) lead detection requirement set forth by the State of California Water Resource Control Board. This new leak detection requirement is a magnitude of order less than the current standard set in many states, such as PA and NJ, of 0.05 gph, but as many in the industry know, California is a forerunner of environmental regulations, and likely a sign of things to come.

Unfortunately, very few of the current tank monitoring systems can achieve this lower leak detection rate. One method that has shown very promising results is Tracer Testing. Tracer Testing is not a new technology, the method has been around for a number of years, but newer enhanced methods of employment are being developed. RT has been talking with Tracer Research, one of the few companies to offer the Enhanced Tracer Testing and currently approved by the State of California, to keep abreast of these new technology for our clients. According to Tracer Research, the technology is still in development and not readily available on the east coast. However, arrangements can be made to conduct a test at a site. Currently, the more advanced test costs about \$10,000 to conduct for an average size gasoline retail station.

The cost of the test is expected to decrease over the next several years as the technology improves and become more readily available. For now, RT recommends the Enhanced Tracer Test be considered for sites with suspect ongoing releases, or for sites where MTBE releases appear to be a continual problem. If interested, please contact RT to discuss your specific situation.

Peter Malik
Remediation Group Manager

National Issues

The California studies appear to show why MTBE releases are being found at so many service station sites, which is unsettling. It is a significant environmental engineering failure, that a "rush to judgement" to solve an air emissions problem resulted in impacts to groundwater throughout the Country. Lets hope that regulatory officials who should know how to properly implement major environmental programs with national significance move quickly to put proper engineering science behind future regulatory and legal mandates, and allow time for proper materials and compatibility testing.

Basic environmental engineering common sense tells us that California studies have identified a major problem - underground piping and fillings used for vapor storage, usually fiberglass pipe, may not be an appropriate material for vapor containment. Of significance from a material standpoint is that aboveground piping, usually of steel or other metal construction is used in refinery and chemical plant applications. Pipes are usually aboveground so that any vapor leaks can be tested and repaired.

We at RT are concerned that this problem has national significance, with added emphasis in California and New Jersey, where vacuum assisted Stage II recovery systems were required by regulatory agencies. Regulatory agencies throughout the nation should move quickly to determine the extent of this problem, and work through tank system piping replacement and upgrading needs, where found to be needed, to avoid further impacts to groundwater at retail service station locations. The very large volume of gasoline that we consume should make this a top priority.

- Gary R. Brown, P.E.
President

FEDERAL REGULATORY UPDATES

EPA TO REQUIRE ADDITIONAL TESTING AFTER TCE RISK ASSESSMENT

EPA will require the parties responsible for contamination at a California Superfund site to perform additional testing for trichlorethylene (TCE) because of concerns raised by a controversial agency risk assessment, which found that TCE posed a much higher risk of cancer than previously thought, according to agency sources.

The Region IX request marks one of the first instances that EPA has required additional testing for TCE in response to the risk assessment released last summer, and raises the possibility of additional widespread testing for the contaminant at numerous Superfund sites around the country, agency sources say. TCE is one of the most common Superfund pollutants and was a widely used degreaser at manufacturing and defense sites before its health risks were discovered.

The additional testing called for by the region confirms the fears of the industry and military officials who criticized the TCE review as flawed and worried that it would lead to additional cleanup costs. "It will require much more burdensome remediation plans," says one industry source, who says industry and the Department of Defense (DOD) "have been complaining to everyone who will listen" about risk assessment, including the White House Office of Management & Budget and Capitol Hill lawmakers.

According to regional sources, the request is being driven by a recent agency risk assessment that found cancer and a number of health risks from TCE to be much higher than previously thought. To be on the safe side, we're asking that the [PRPs] do some air quality monitoring," says one source.

The risk assessment, approved by the agency's Science Advisory Board in June, has been contested by the military and industry scientists who say the review has serious flaws, and will tighten current cleanup levels by a factor of five. DOD has estimated that the TCE risk assessment could lead to billions in cleanup costs.

The industry source declined to say which lawmakers may act on the TCE risk assessment, but predicts that the Armed Services committees may act "in the next few months."

(*Superfund Report - October 14, 2002*)

JUDGE RULES CLEANUP ORDER UNNECESSARY FOR COST CONTRIBUTION

A federal judge has rebuffed the reasoning for a controversial federal appeals court decision regarding Superfund cleanup cost recovery, ruling that a potentially responsible party (PRP) at a Superfund site can seek costs from other PRPs at the site absent a cleanup order from EPA.

The federal district court ruling rejects the contentious U.S. Court of Appeals for the Fifth Circuit decision in *Aviall Services, Inc. v. Cooper Industries, Inc.*, which industry had decried as creating disincentives to programs

under which businesses voluntarily clean up contaminated sites before EPA issues cleanup orders. Industry touts voluntary cleanup programs as speedier and significantly less costly than cleanups conducted under EPA orders. The Fifth Circuit is currently conducting an *en blanc* review of the case.

Sources say the ruling is significant because it marks one of the first instances that *Aviall* has been cited since the Fifth Circuit issued the decision last year. *Aviall* has also been widely criticized by environmentalists and EPA officials contrary to the agency's long-standing policy of encouraging PRPs to voluntarily come forward to clean up contaminated sites.

One attorney involved in *Waukesha* says the recent decision casts doubt about how the *Aviall* decision may hold up on appeal. "Here's a district court that flat out rejects the reasoning in [the *Aviall*] decision," says the source.

The Fifth Circuit's decision in the *en blanc* review is being anxiously awaited by industry, environmentalists and federal officials, who say a U.S. Supreme Court appeal or federal legislation may be necessary to rectify *Aviall's* effect.

Several sources have speculated that congressional involvement will be necessary to nullify *Aviall*. "Congress will have to get involved and change the [Superfund] statute," says one industry source.

But a congressional source says the issue is not ripe for legislative action, saying the appeals process will have to play out before that can happen.

(*Superfund Report - October 28, 2002*)

FIRST FEDERAL FACILITY "READY FOR REUSE" CERTIFICATE ANNOUNCED

The U.S. Environmental Protection Agency (EPA) and the Texas Commission on Environmental Quality (TCEQ) issued a "ready for reuse" certificate to the U.S. Air Force for a part of Brooks Air Force Base in San Antonio, Texas. The certificate is the first of its kind to be issued and the first for a federal facility nationally.

The state of Texas and EPA agree that the Air Force has successfully completed its cleanup. The "ready for reuse" certificate verifies that environmental conditions on this property are proper for current use and anticipated future use as a technology and business park.

EPA Division Director Carl Edlund said, "Today's announcement highlights our newest initiative - the reuse of formerly used industrial properties. We are building on our experience using the successful Brownfields program. Our 'ready for reuse' certificates clear the way by providing the assurances to help encourage developers to reuse these valuable natural resources."

Brooks City-Base is located 6 miles southeast of downtown San Antonio, Texas, and encompasses more than 1,300 acres. Brooks Air Force Base was initially established in 1917 as a flight instructor facility. By the late 1950s, the facility had transitioned to function as a medical

FEDERAL UPDATES

- TCE Vapor Risk Reevaluation - Pg. 4
- Biosolids Risk Update - Pg. 4
- EPA NSR Reforms - Pg. 5
- EPA Brownfields Liability - Pg. 5
- Utility Plant Air Rules - Pg. 6

research, development educational facility.

On July 22, 2002, Brooks Air Force Base was officially transferred to the Brooks development part of the Brooks City-Base Project and formally renamed. Prior to the transfer, the U.S. Air Force completed a comprehensive environmental assessment of the property and performed restoration to certify that the conditions on the property do not pose a risk to public health or the environment for the current or anticipated future uses for the property.

(*Brownfield News - 11/13/02*)

EPA OFFERS SHORT-TERM GUIDANCE IN RESPONSE TO NAS BIOSOLIDS REPORT

On October 31, Tracy Mehan and Paul Gilman (EPA assistant administrators for water and research & development, respectively) sent a joint advisory letter to all 10 regional administrators and all state commissioners regarding the agency's plan to respond to the National Academy of Sciences' biosolids report issued in July. In the letter, Mehan and Gilman outlined the timetable for EPA's final action plan, due to be published in January 2004, and offer guidance on what to do concerning biosolids program implementation in the meantime.

Essentially, the July 2002 NAS report, *Biosolids Applied to Land: Advancing Standards and Practices*, concluded that insufficient information is available regarding the potential for adverse health effects from biosolids use, and that more scientific studies are needed.

In light of these findings, Mehan and Gilman offer the following guidance in their letter:

- Biosolids continue to be managed in full compliance with the Part 503 rule.
- Local governments may decide whether their biosolids are land-applied, landfilled or incinerated.
- Adoption of voluntary environmental management systems for biosolids, as being suggested by the National Biosolids Partnership, can improve biosolids management.
- Biosolids management processes should be reviewed during normal state or federal inspections at wastewater treatment facilities.

While these recommendations may help regional and state officials in the short term, the agency does have a timetable in place for a long-term response to NAS' report. According to Mehan and Gilman, EPA will develop a proposed plan of action by April 2003, to be published in the *Federal Register*. Based on public comments and other information, the agency will publish a final action plan in the *Federal Register* in January 2004.

A copy of the advisory letter is available in PDF format at:

FEDERAL REGULATORY UPDATES (CONTINUED)

www.biolids.policy.net/relatives/24841.pdf.
NAS' report is available on EPA's web site at:
www.epa.gov/waterscience/biosolids/nas/com-
plete.pdf. Additional information can be found
at the National Partnership Website at:
www.biosolids.org.

*(Water & Wastewater Products - E News
11/18/02)*

EPA ISSUES FINAL PROPOSED NSR REFORMS

The U.S. Environmental Protection Agency (EPA) issued its new source review (NSR) reform package November 22nd. EPA's final changes to the NSR program are along the lines of those proposed in 1996. EPA also proposed additional changes to the definition of "routine maintenance" and other provisions.

EPA is taking action to now improve NSR and thereby encourage emissions reductions," said EPA Administrator Christie Whitman. "The steps we are taking today recognize that some aspects of the NSR program have deterred companies from implementing projects that would increase energy efficiency and decrease air pollution.

EPA's action drew praise from industry representatives, including Mark Whittenton, National Association of Manufacturers Vice President for resources and environmental policy, who called it a "reason to step up towards increased regulatory efficiency and continued steady progress on air quality." The rule changes "will provide business planners with greater certainty as they work to increase production and limit air pollution in a cost-effective manner," he said.

The text of EPA's final and proposed rules is available on the agency's Web site at:
<http://www.epa.gov/nsr>.

*(Environmental Compliance Alert -
November 22, 2002)*

INDUSTRY PRESSES EPA TO CLARIFY BROWNFIELDS LIABILITY PROVISIONS

Less than a year after President Bush signed the new brownfields liability relief law, industry officials are raising concerns that its liability provisions are ambiguous and fail to provide developers and investors with the necessary legal certainty they need to proceed with their development plans.

As a result, several industry attorneys and other legal experts are calling on EPA to clarify unresolved liability issues, either through guidance, rule makings or even congressional amendments in order to avoid litigating issues that courts have been forced to resolve in the past.

But one informed source fears EPA enforcement officials may be reluctant to quickly issue administrative clarifications on these liability provisions. The source says agency officials are considering draft guidance proposals to address some of the concerns.

Agency officials are still reluctant to reveal their plans, telling attendees at their recent Brownfields 2002 conference in Charlotte, NC,

only that they are developing guidance and regulations to resolve some of the issues, although they have established no timeframes.

Chief among concerns is language in Subtitle B of the law, which amends the cost recovery provision of CERCLA to provide liability relief for bona fide prospective purchasers (BFPP) of brownfields as long as they meet several conditions. However, sources say the legislative language detailing these conditions is unclear and must be clarified.

Among the concerns is the requirement that a prospective purchaser make all "appropriate inquiry" into previous ownership and uses of a site, and whether that means full compliance with "American Society for Testing & Materials" standards, the procedures that direct how initial assessments of a property should be conducted.

In addition, to attain the BFPP exemptions, a person must exercise "appropriate care" by taking "reasonable steps" to stop continuing and future releases from occurring. Sources say that language is so vague it is scaring off potential buyers. "Could it mean full cleanup?" asks one source. "I would hope [it means] less, not more."

The fact that the BFPP exemptions only apply prospectively raises questions such as whether post-enactment tenant of a re-enactment owner is precluded from obtaining BFPP status, sources say.

Industry is also questioning what is considered a release under the law, noting that CERCLA defines a release as including leaching, which suggests a BFPP could have to undertake expensive remediation. "Where do you draw the line?" asked one official.

(Superfund Report - November 25, 2002)

BUSH ADMINISTRATION CHANGES NEW SOURCE REVIEW PROGRAM

EPA made a long awaited announcement regarding the Clean Air Act's New Source Review Program on November 22. Predictably, what EPA termed "improvements" to the New Source Review - which it issued in the form of a final rule and proposed rule - received jeers from environmentalists.

Under the final rule, facilities that agree to operate within site-wide emissions caps called plant-wide applicability limits (PALs) will be allowed to modify their operations without undergoing New Source Review. According to EPA, the final rule also will encourage facilities to invest in pollution prevention activities and air pollution controls by offering more flexibility. In addition, the rule changes emission calculation test methodology, allowing industrial facilities to use any consecutive 24-month period in the previous decade as an emissions baseline before implementing a new project.

The proposed rule would revise the existing "routine maintenance, repair and replacement" exemption contained in EPA's regulations, giving industrial facilities an annual allowance for maintenance. New pollution control equipment would only be required when facilities exceed the allowance.

EPA Administrator, Christie Whitman said, "NSR is a valuable program in many respects, but the need for reform is clear and has broad-based support. The steps we are taking today recognize that some aspects of the NSR program have deterred companies from implementing projects that would increase energy efficiency and decrease air pollution."

For more information, including copies of the final rule and the proposed rule, go to:
www.epa.gov/nsr.

*(Environmental Protection - E-News -
November 25, 2002)*

BUSH SIGNS BILL TO SAVE WETLANDS

President Bush marshaled White House fanfare to renew a program that leverages federal dollars to preserve wetlands.

"Today we're taking important action to conserve North America's wetlands, which will help keep our water clean and help provide habitat for hundreds of species of wildlife," he said at a signing ceremony.

The legislation extends for five years a program under which the federal government helps leverage donations from lobbyists, state wildlife agencies, conservationists and landowners who pledge to protect wetlands, particularly those home to migratory waterfowl.

Under the program, the government has contributed \$462 million since 1991, matched by \$1.3 billion from others, Bush said. The money has been used to restore waterways, plant native trees, and acquire land that is home to endangered species.

*(By Jennifer Loven - The Philadelphia Inquirer -
December 3, 2002)*

EPA PROPOSES RISK-BASED FLEXIBILITY IN LONG OVERDUE AIR TOXIC STANDARDS

As part of its long delayed release of overdue air toxic standards, EPA is courting controversy by including risk based strategies for setting the toxics limits in five of 10 categories for which the agency signed proposed rules November 22. Environmentalists claim that evaluating health risks violates the air act's requirements for technology-based standards.

EPA Administrator Christine Todd Whitman signed proposed air toxics emissions standards for 10 source categories under the Clean Air Act's maximum achievable control technology (MACT) program. The rules will regulate: auto and light duty truck surface coating, combustion turbines, industrial commercial and institutional boilers and process heater, iron and steel foundries, lime manufacturing metal can surface coating, plywood and composite wood products, primary magnesium refining, reciprocating internal combustion engines, and taconite iron ore processing.

The rules were formally announced on November 22.

(Defense Environment Alert - 12/03/02)

FEDERAL REGULATORY UPDATES (CONTINUED)**EPA "OFF-ROAD" DIESEL RULES - UPDATE**

EPA, environmental groups and the oil industry are struggling to work out their differences over pending federal regulations that will require cleaner emissions from diesel powered farm and construction equipment and railroad engines.

These "off-road" diesel users represent about 30% of the market for the fuel. The concern is how quickly the off-road fuel engines can be made cleaner, once the U.S. implements an already promulgated rule mandating removal of most of the sulfur from highway-used diesel fuel by mid 2006. That rule also requires manufacturers to produce cleaner burning car, truck and bus engines starting in 2007.

Noting that the emission of tiny particles of soot from diesel engines is one of the most dangerous forms of air pollution, the leaders of eight environmental groups wrote the Environmental Protection Agency pushing for the introduction of sulfur fuel for off road vehicles by 2008. Removal of most sulfur from fuel is necessary before engine makers can produce engines with more powerful catalytic converters and other pollution reduction equipment that can be impaired by sulfur - laden fuel.

Oil industry officials visited the Office of Management and Budget, which is working with the EPA in the off-road diesel rule. The industry raised concerns about how quickly oil refiners can remove sulfur from enough diesel to supply off road users, once it has provided cleaner - burning fuel for highway users.

The phase-in, according to the environmental

groups, could delay implementation of cleaner - burning engine equipment for "more than a decade from now," according to their letter. "What we're concerned about is creating loopholes that could drag this thing out," said Frank O'Donnell, executive director of the Clean Air Trust. Once the emissions from highway diesels drop, he noted, the off-road vehicles will be the largest source of soot, nitrogen oxides and other health threatening emissions from vehicles.

(By John J. Fialka - *The Wall Street Journal* - 12/21/02)

NEW UTILITY PLANT AIR RULES FINALIZED BY EPA

The EPA issued rules to make it easier for industrial plants and refineries to modernize without having to buy expensive pollution controls.

The Environmental Protection Agency regulations, first announced in November and effective in March, significantly change the way older industrial plants will have to deal with air pollution when they expand, make major repairs or modify operations to increase efficiency.

The administration said the new approach was badly needed to remove barriers to innovation and increased productivity.

New Jersey and seven other Northeastern states, joined New York in a lawsuit filed in the U.S. Court of Appeals in Washington, D.C. in opposition to the new rule.

Officials in the Northeast are concerned about the potential for increased industrial and power-plant pollution, because much of the chemical releases from coal burning power plants and

factories in the Midwest and Ohio Valley drift eastward, making it harder to meet the federal air quality standards in their states.

The changes in the so-called New Source Review regulations have been in the works for years.

EPA and White House officials have said that the rules, as they were interpreted, and implemented in recent years, have kept companies from making some changes that would have cut pollution - not increase it.

The changes "will be positive for the environment," EPA spokesman Joe Martyal insisted in response to the lawsuit.

Among the changes to take effect in March are:

- Companies will be given greater flexibility to modernize or expand without having to install new pollution controls
- Plants that have installed state-of-the-art pollution controls, will be assured that for 10 years they will not have to install more effective equipment even if they expand or change operations in a way that results in greater pollution.
- Plants with numerous pollution sources may increase pollution from some of these sources as long as overall, plant-wide air emissions are not increased.
- Companies have a greater leeway in calculating pollution to reduce the likelihood that new controls will be required.

The rules were published in the Federal Register on 12/21/02

(By H. Josef Herbert - *The Philadelphia Inquirer* - 1/01/03)

GLOBAL WARMING WATCH**ARCTIC ICE MAY VANISH THIS CENTURY**

Perennial sea ice - the floating ice that remains year round near the Arctic Circle - could vanish entirely by the end of this century, warns a new study by researchers at the National Aeronautics and Space Administration. The NASA study concludes that sea ice is now melting about nine percent faster than prior research had indicated, due to rising temperatures and interactions between ice, ocean and atmosphere.

"If perennial ice cover, which consists mainly of thick multi-year ice floes, disappears, the entire ecology would become very different," said Josefino Comiso, a researcher at NASA's Goddard Space Flight Center who authorized the study.

Cosimo used satellite data to track trends in minimum Arctic sea ice cover and temperature over the Arctic from 1978 to 2000. Since sea ice temperature over the Arctic does not change uniformly in terms of time or space, Comiso sectioned off portions of the Arctic data and analyzed these sections to determine when ice had reached the minimum for that area each year.

Comparing the differences between the Arctic sea ice data from 1979 to 1989 and data from 1990 to 2000, Comiso found the biggest melting occurred in the western area - the Beaufort and Chukchi Seas - while considerable losses were also apparent in the eastern region of the Siberian, Laptev and Kara Seas. In small areas near Greenland, perennial sea ice advanced a bit,

Comiso found.

The rate of decline is expected to accelerate due to interactions between the ice, oceans and atmosphere. As temperatures in the Arctic rise, the summer ice cover retreats, more solar heat gets absorbed by the ocean, and more ice gets melted by a warmer upper water layer.

(By Cat Lazaroff - *Environment News Service* - 12/03/02)

ICE CORE ANALYSIS SHOWS WESTERN CANADA WARMING

Western Canada is warming up, and will continue to grow warmer at the same time as snow accumulates even deeper on the ground, says a Canadian-Swiss research team. Analysis of an ice core drilled from Canada's highest mountain indicates that western Canada has experienced significant climate change over the last 150 years, according to their new scientific study published in the journal "Nature."

The paper furthers the argument that human activity has contributed to global warming, its authors say.

The scientists came to their conclusions after examining the ice core and calculating a "marked increase" in snow accumulation levels on Mount Logan since 1850. Increases in snow accumulation, according to the research team, are associated with a warming of the atmosphere.

Through their chemical analysis of the core, the researchers examined climate change over the

GLOBAL WARMING WATCH

- Arctic Ice Vanishing - Pg. 6
- Biting Cold Winters - Pg. 6

past 300 years at Mount Logan. In the southwest corner if the Yukon Territory in the Saint Elias Mountains of Kluane National park, at 5,959 meters (19,550 feet) Mount Logan is Canada's tallest point, and the second highest peak on the continent.

Moore and his team found that the average annual snow accumulation at Mount Logan remained constant between about 1700 and 1850 AD, but then increased from 1850 onward.

"We argue that this increase in snow accumulation is associated with a warming of the atmosphere over western Canada," said Moore. The researchers also say that the snow accumulation was the greatest in the past 10 years and that their findings are consistent with other research that demonstrates global warming.

(*Environment News Service* - 12/03/02)

BITING COLD WINTERS MAY SUDDENLY ARRIVE - A RESULT OF GLOBAL WARMING?

Scientists have been warning that the earth is slowly warming up, that the recent run of gentle winters in the United States is no fluke, but the warm-up to the big melt-down.

Now, however, comes a chilling prediction from

GLOBAL WARMING WATCH *(Continued from page 6)*

some of the same experts. Before the climate gets balmy, they say, it could take a sudden turn toward the frigid - and stay that way for decades, if not centuries.

In the Northeast, sub-zero temperatures could become standard winter fare, filling rivers with ice chunks, cutting short the growing season, and altering bird migrations. The cold and the snow of the last week would feel like spring break.

Behind the brutal scenario is a baffling ocean phenomenon that experts have watched with rising angst: An expanding mass of freshwater in the usually salty, Atlantic that has spread alarmingly in the last seven years. It now reaches south from Greenland to, just off the coast of the Carolinas, an area of 15 million square miles.

If the buildup continues, they say it could impede the Gulf Stream, a major climate maker that transports warm air to northern latitudes in

winter. Average winter temperatures in the Northeastern United States and Western Europe could abruptly plummet 10 degrees.

"None of us could tell you whether that event happens next year or ten years from now," said Raymond W. Schmitt, Jr., senior scientist at the Woods Hole Oceanographic Institution in Massachusetts, which has taken the lead in studying the freshwater pool.

One climate scientist suspects the Gulf Stream already is slowing down. At a time when other glaciers around the world are in retreat, the Scandinavian glacier has been growing. Andrew Weaver, of the University of Victoria, British Columbia, says it may be the result of less warm air reaching that far corner of the Atlantic.

The prospect of a deep freeze, whether sooner or later, so concerns the British government that it is sinking \$30 million into figuring out what's going

on in The Pond. For while no one disputes the freshening is real, no one is sure why it is happening.

Some researchers believe that, ironically, global warming could be the blame, that melting Greenland glaciers and Arctic sea ice could be diluting the salt water in the North Atlantic. Others theorize that it could be a phase in a natural cycle, one that ice-core evidence suggests might have happened several times in the last 100,000 years - and perhaps as recently as America's colonial era.

While abrupt shifts may be nothing new, this one could be unprecedented in one important respect: Science is trying to get to the bottom of it. But even as researchers measure the freshwater mass by dropping instrument packs into the ocean, one thing is certain: They won't be able to stop it.

(By Anthony R. Wood - The Philadelphia Inquirer - 12/08/02)

LAND RECYCLING FOURTH QUARTER 2002 SLAM DUNK

RT Environmental Services is pleased to announce the successful completion of seven major Land Recycling/Brownfields Projects in Southeastern, Pennsylvania, during the fourth quarter 2002.

Here are the Key Highlights of each site.

East Whiteland Township - James Spring and Wire Site

- Chlorinated solvent release to groundwater.
- Delineation of the spatial extent of dissolved-phase contamination.
- Contaminant fate and transport modeling completed.
- Act 2 approval for attainment of a site-specific standard.

Client - James Spring and Wire

Philadelphia - Tioga Street Site

- Chlorinated solvent release to groundwater.
- Delineation of the spatial extent of dissolved-phase contamination.
- Contaminant fate and transport modeling completed.
- Approval for non-use aquifer designation.
- Act 2 approval for attainment of the Statewide Health Standards.

Client - B&W Associates

Philadelphia - 3320 Collins Street Site

- Petroleum release to groundwater.

- Buyer/Seller Agreement.
- Delineation of the spatial extent of phase-separated hydrocarbons.
- Evaluation of the vapor-pathway.
- Contaminant fate and transport modeling completed.
- Approval for non-use aquifer designation.
- Due to the presence of phase-separated hydrocarbons, Act 2 approval for attainment of a site-specific standard.

Client - Scholler Inc.

Philadelphia - 5th and Vine Street Site

- Delineation of lead impacted historical fill.
- Act 2 approval for attainment of a residential site-specific standard.

Client - Assouline & Ting, Inc.

Upper Merion Township - DeKalb Pike Site

- Former asphalt plant.
- Horizontal and vertical delineation of petroleum impacted soils.
- Leachability testing to demonstrate no impact to groundwater.
- Act 2 approval for attainment of the Statewide Health Standard.

Client - Glasgow, Inc.

Upper Merion Township - 211 South Gulph Road

- Chlorinated solvent release to groundwater.

- Delineation of the spatial extent of dissolved-phase contamination.
- Contaminant fate and transport modeling completed.
- Act 2 approval for attainment of a site-specific standard.

Client - Preferred Real Estate Advisors

Upper Providence Township - Majka Site

- Former fruit orchard.
- Arsenic impacted soils.
- 600 cubic yards of soil remediated through soil mixing.
- Act 2 approval for the attainment of the Statewide Health Standard.

With the regions strong real estate market continuing, there are many types of environmentally impaired sites being eyed for redevelopment, from former service stations, dry cleaners, agricultural properties, retail centers and large industrial sites. As RT continues to do what it takes to remediate and manage the risk at these sites, and we have built the knowledge and experience to turn around all sites efficiently and professionally. Feel free to call us for more information on the award winning Act 2 Land Recycling process - (Christopher Orzechowski, P.G., Associate 610-265-1510 ext 32)

OLD SINGLE WALLED PISTON HYDRAULIC LIFTS AND ELEVATORS BITING THE DUST

At RT Review Press Time, notices were going out from a number of elevator and lift service companies, that in 2003, they no longer accept environmental responsibility and lift maintenance responsibility for hydraulic piston driven elevators and lifts. The reason for this is an increasing number of releases from such units, where owners or property managers hold the service company responsible for the release.

These types of units suffer from many of the same deficiencies as underground storage tanks, in that piping systems can fail catastrophically due to air hammer or other

pressure conditions causing blow offs at elbows, sometimes releasing the entire contents of the hydraulic reservoir into soil and/or groundwater in a number of minutes following the pipeline or fitting breakage. RT has experience at investigating and managing releases resulting from such failures at a number of sites, including releases in service facilities, malls, under office buildings, etc.

New double wall piston systems are available, but installation is both expensive and time consuming. Drilling rigs need to be set up in most cases to remove the old sleeves and

pistons, frequently costing \$15,000 to \$30,000 per unit, with "downtime" of one to two weeks. Knowledgeable commercial property managers, who have looked at the situation from a "life cycle" standpoint, have reached the conclusion that electric elevators, or upgrading to electric elevators is the most cost effective long term approach. Further, major national owners of tire battery and auto centers generally made the decision to only use "aboveground" electric lifts, thus avoiding environmental liability concerns altogether, long ago. For more information on the hydraulic lift situation call Gary Brown at 800-725-0593 Ext. 34.

PA UPDATES

DEP GUIDANCE ON SOLID WASTE FACILITY; HARMS/BENEFITS ANALYSIS

On August 24, 2002, DEP issued important Guidance affecting the future permit approval process for Soil Waste Facilities. Key issues are:

- The Department will perform the Environmental Assessment in Phase I or prior to other technical review for applicable municipal and residual waste permit applications. If the Department is aware of technical deficiencies or other issues that would preclude issuance of the permit, it may deny the application without conducting an environmental assessment review.

- This policy applies to applications for municipal and residual waste disposal or processing permits specified in 25 Pa. Code §271.126 and §287.126 (relating to requirement for environmental assessment).

- The environmental assessment is designed to ensure that environmental harms from proposed municipal and residual waste disposal and processing facilities are mitigated to the fullest extent possible. If harms are not completely mitigated, (and for facilities listed in sections 271.127(c) and 287.127(c)), the benefits of the project to the public must clearly outweigh the known and potential environmental harms. The term “clearly” refers to the level of proof required, not to the amount of the benefits provided in relation to the remaining harms.
- Five general principles should be considered when evaluating harms and benefits in environmental assessments. These are discussed more fully throughout this document.

- Compare the proposed facility or modification to the conditions that would exist if the project did not move forward and not to other potential uses of the property or to other properties.

- Focus on harms and benefits that relate to the proposed modification when a facility has previously been subject to an environmental assessment.

- Look at and beyond compliance with statutes and regulations. Harms may exist even when the law is complied with, and benefits may arise inherently from the project, through compliance with the law, or by intention.

- Evaluate harms individually and collectively; evaluate mitigation measures individually and collectively; and evaluate benefits individually and collectively because impact from the facility may be greater than the sum of its parts

- Consider the anticipated closing of the facility in determining the duration of known and potential harms and benefits. Some harms and benefits will last for a limited time period and others may last longer even after the facility closes.

• Environmental Harms and Mitigation

- Under §271.127(b) and 287.127a(b), the applicant’s environmental assessment shall describe the known and potential environmental harms of the proposed project. These include, among other things, adverse impacts relating to traffic, aesthetics, noise, odor, dust,

air quality and airport safety. The applicant shall provide the Department with a written mitigation plan that explains how the applicant plans to mitigate each identified known and potential environmental harm. If the Department or another person identifies additional environmental harms, the applicant must provide a mitigation plan for them, as well. The environmental assessment must also describe known and potential environmental harms that are not mitigated.

- Harm from waste vehicles traveling to and from the facility should be considered. Vehicle-related harm is considered an environmental harm.

- Something can amount to a harm even if it meets the requirements of the law.

- An impact can also amount to a harm even if it occurs away from the host or local municipality.

• Mitigation

- The Department will evaluate each mitigation measure and will collectively review mitigation measures to ensure that individually and collectively they adequately protect the environment and the public health, safety and welfare.

- The applicant must demonstrate that a proposed mitigation measure will have continuous and long lasting success.

- A harm is not necessarily considered completely mitigated simply because the applicant has obtained a permit or approval from another Bureau of the Department or another Commonwealth agency.

- Mitigation plans should be approved before a permit is granted and mitigation measures must be completed before the harm that is being mitigated occurs.

• Applications that must identify benefits

- Applications for the following types of facilities must demonstrate that the benefits of the project to the public clearly outweigh the known and potential environmental harms: municipal waste landfills, resource recovery facilities, construction/demolition waste landfills, noncaptive residual waste landfills, noncaptive residual waste disposal impoundments and noncaptive residual waste incinerators.

• Benefits

- An applicant must describe in detail the benefits relied upon. Section 271 and 287.127(c), (d) explain that the benefits of the project shall consist of social and economic benefits that remain after taking into consideration the known and potential social and economic harms of the project and shall also consist of the environmental benefits of the project, if any.

- Benefits may arise inherently from the project (e.g., serving a need for disposal or processing capacity), or from compliance with the law (e.g., paying host municipality benefit fees and providing recycling drop-off centers), and benefits may also be intentionally created (e.g., charitable contributions).

PA UPDATES

- WasteHarms/Benefit Analysis - Pg. 8
- Vapor Intrusion Act 2 Guidance - Pg. 9
- Water Resources Bill - Pg.9

- As a general rule, the Department should compare the applicant’s proposal to the conditions that would exist if the project did not move forward in determining whether something amounts to a benefit, rather than comparing it to other potential uses of the property or to other properties.

• Social and Economic Harm

- Social and economic harms include, among other things, reduction in residential property values and interference with civic pride. Social and economic harms may be mitigated.

• Balancing

- The regulations require that the benefits of the project to the public clearly outweigh the known and potential environmental harms.

- The factors that should be considered for each harm and benefit are the following:

- Duration
- Intensity.
- Frequency.
- Reach, *or* who will be affected.
- Sensitivity of receptor.
- Known or potential.
- Other relevant factors.

- Once each harm and benefit is evaluated individually with these factors in mind, it should be evaluated collectively; harms with harms, and benefits with benefits.

- It must be clear to the Department that the project is more beneficial than harmful in order for it to proceed to the Phase II (technical review) in the application process.

This Guidance will make it more difficult to site new solid waste facilities in PA. The industry has already challenged the harms/benefits analysis permitting approach (see the related article below). Stay tuned on this one.

– Gary Brown

WASTE INDUSTRY CHALLENGES

POWER OF PA AGENCIES

Amid outcry over Pennsylvania’s status as the nation’s number-one importer of garbage, state officials hit on a simple, but sweeping, solution a few years ago:

If the potential harm of a proposed landfill exceeded any social and economic benefits, it would be rejected.

In a hearing in November, in Commonwealth Court, waste-industry officials were arguing that the regulation – the “harms-benefits test” – is unlawful. The coal, chemical and construction industries joined the case, concerned that if the rule is upheld, they will be the next regulatory targets. The basic issue, to be heard by all 15 judges on the court, is not so much whether landfills are good or bad, but how much power state agencies can wield.

In this case, waste-disposal companies accuse the state – the Environmental Quality Board and

PA UPDATES *(Continued from page 8)*

the Department of Environmental Protection – of going beyond mere regulation and making a “basic policy choice” – in effect, writing new law. If the rule is upheld, the effect would be dramatic.

The state has led the nation in garbage imports for more than a decade and currently accepts more than twice the amount of trash of Virginia, the next state on the list. In 2001, Pennsylvania’s total was 12.6 million tons, most of it from New York and New Jersey. Proposals for landfill expansions were rarely denied until the new rule was adopted in December 2000, as gaining approval was largely a matter of following the state’s design requirements, such as using the proper liners to prevent leakage. Less than five months after harms-benefits was formally adopted, the state used it for the first time to deny a proposed expansion, of the Alliance Sanitary Landfill near Scranton.

The Ridge and Schweiker administrations have contended that the harms-benefits regulation is authorized by law. In its legal brief, the state cites the Soil Waste Management Act of 1980, which calls for regulations “relating to the protection of safety, health and welfare and property of the public...and most natural resources.” Most environmental laws contain similar language, hence the concern from chemical and other industries that some form of harms-benefits regulation could someday be drawn up with them in mind.

Attorneys for the landfill industry argue that nowhere in the law did the legislature specify that landfills had to demonstrate some sort of societal benefit. The industry contends that the Environmental Quality Board, which adopts the DEP’s regulations, overstepped its bounds.

(By Tom April, Philadelphia Inquirer - 11/3/02)

PA DEP VAPOR INTRUSION GUIDANCE

PA DEP recently proposed changes to the Act 2 Land Recycling Vapor Intrusion Guidance. Key highlights are as follows:

- If a property does not currently have dwellings (non-residential) and it is possible that future development will consist of occupied buildings (residential), the deed acknowledgment requirements shall apply pursuant to Chapter 250.303(g).
- If a site has separate phase liquid (SPL) within 100 feet of the receptor and samples collected at 50 feet from the receptor indicate no SPL, then further soil gas sampling would not be required at the receptor. If SPL is found within 50 feet of the receptor, soil gas would be required at the receptor.
- A responsible party needs only sample and analyze for those constituents pertaining to the particular release at the site that are on the COPIAC list or in Tables 1,2,4,5 in the Guidance. If the constituent is not listed in the tables and it is found to be a concern at a particular site, then a site-specific analysis should be used.

- For soil gas sampling, at least 2 quarterly samples (spring & winter to account for seasonal variations) must be collected during evening hours.

- Because sampling VOCs in indoor air can be complicated by these other sources of VOCs within a dwelling, the guidance gives an option of taking soil as measurements at a distance not to exceed 5 feet from the dwelling and compared to MSCs for soil gas.

- Where OSHA regulations are applicable at the site including PELs, OSHA-derived screens may be used as an alternative to the default EPA-derived screen if so documented.

- Specifics concerning soil gas and indoor air sampling are addressed in a Technical Guidance Manual (TGM) revision.

- It is recommended that soil gas samples be collected periodically (e.g., four quarterly samples over a year). The MA DEP guidance that is referenced recommends that 1-2 soil gas sampling probes be installed adjacent to the structure. Specifics concerning soil gas and indoor air sampling are addressed in a Technical Guidance Manual (TGM) revision.

- If separate phase liquid (SPL) exists within 100 feet of a receptor, then sampling in or around the receptor to attain the Statewide Health Standard is required.

- Revisions were made to toxicity values as follows:

Chloroform – new EPA RBC

Ethylbenzene - new Residential & Non-Residential MSC and EPA RBC

MTBE - new EPA RBC

PCE - new Residential and Non-Residential MSC and EPA RBC

TCE - new Residential and Non-Residential MSC and EPA RBC

1,1,2 - Trichloroethane - new EPA RBC

1,1 - Dichloroethene - new Residential and Non-Residential MSC

These changes may require further studies at many PA Brownfields sites where releases involve petroleum constituents or solvents. Additionally, for projects in progress, revisions to Act 2 Notices of Intent to Remediate may be needed as attainment of vapor intrusion standards is an “overlay” standard which may not have been considered during remedial investigation work. RT already has experience using the vapor intrusion standards at a number of solvent and petroleum release sites. Call Chris Orzechowski, 610-265-1510 x32 or Gary Brown, 610-265-1510 x34 for more information.

PA WATER RESOURCES BILL PASSES

The House joined the Senate in late fall to send the bipartisan Water Resources Planning Act to Gov. Schweiker’s desk ending a more than 20 year effort to adopt water resources legislation to Pennsylvania.

“For three decades, Pennsylvania has relied on a water plan that provided little or no help in battling drought conditions,” said Gov. Schweiker. “By their overwhelming bi-partisan approval,

members of the General Assembly have joined this Administration to ensure that Pennsylvania will no longer sit back and wait for the next drought to occur.”

This legislation will allow the Commonwealth to measure how much water we’re using and where water resources are in jeopardy. Those are tools we must have in order to protect one of our most important natural resources,” added Gov. Schweiker.

The Act requires DEP to develop a new State Water Plan over the next five years working with both regional and statewide water resources advisory committees whose membership includes environmental, local government, technical and water user interests. The Plan will help answer three basic questions: How much water do we have? How is the water being used? Where will the demand for water outstrip the supply?

The Act, contained in House Bill 2302, specifically preserves the existing authority of DEP and local governments to regulate water. Governor Schweiker signed the bill before the end of 2002.

NEW WASTE HAULER PROGRAM STARTS UP

In December, waste transporters were requesting the forms they needed to obtain authorization to operate under the new Waste Transportation Safety Program (Act 90).

Act 90 gave DEP new authority to reduce unsafe and polluting trash trucks on Pennsylvania highways by requiring authorization for transports hauling waste to Pennsylvania facilities, with vehicles over 17,000 pounds or trailers over 10,000 pounds. If transporters do not comply or have no intention or ability to comply with safety and environmental regulations, DEP may withhold authorization to operate in the Commonwealth.

The new law also provides that no landfill or municipal or residual waste processing or disposal facility can accept waste from a truck without a current authorization sticker from DEP after December 26, 2002. Penalties for violating the new law are up to \$25,000 per day.

**RT’s
24 HOUR
URGENT LINE
SERVICE**

800-725-0593

**We’re available
24/7- Call us**

When you need us!

PA BULLETIN UPDATES

DEP PROPOSES NO_x CONTROL REQUIREMENTS FOR CERTAIN BOILERS, TURBINES, LARGE INTERNAL COMBUSTION ENGINES (Stationary ≥ 1000 HP)

This proposed rulemaking was adapted by PADEP on September 17. The rulemaking is available at <http://www.dep.state.pa.us>, choose "participate."

HAZARDOUS WASTE MANAGEMENT

The Environmental Quality Control Board (Board) amended Chapters 260a – 265a and 27-a to update the hazardous waste management program to read as set forth in Annex A.

The rulemaking went into effect upon publication in the *Pennsylvania Bulletin*.

Highlights of these changes are as follows:

- Several of the amendments reinstate requirements that were part of the Commonwealth hazardous waste program prior to May 1999 RBI rulemaking.
- The final-form rulemaking reinstates that requirement to manage waste as hazardous until a waste determination is completed. Generators of soil waste must make a determination as to whether or not the waste is hazardous.
- The SWMA requires any person or municipality who generates, transports, stores, treats or disposes of hazardous waste to... immediately notify the Department and the affected municipality or municipalities of any spill or accidental discharges of hazardous waste. Section 26a.43 (relating to additional reporting) re-establishes the conditions, amounts, standards and procedures for reporting spills and discharges of hazardous waste. This section also restores the provision that Department official may authorize immediate removal of spilled hazardous waste or materials if necessary to protect the health and safety of the public and the environment.
- The Department retains the independent authority to make a waste determination; §263a13(j) requires a copy of the contingency plan to be on hazardous waste transport vehicle
- The final-form rulemaking contains new language that clarifies how a person can comply with the containment and contingency plan requirements of the SWMA.
- First, §262a.34 (relating to accumulation time) is added to require secondary containment for generator storage of hazardous waste in containers.
- Second, §263a.12 (relating to transfer facility requirements) adds requirements for PPC plan preparation for hazardous waste transfer facilities.
- The amendments to §264a.97 (relating to general groundwater monitoring requirements) specifies the frequency of the analysis required by that section. This final form rulemaking eliminates setback requirements contained in §264a.173(2) (relating to management of containers) for reactive or ignitable waste.
- The final-form rulemaking adjusts the fee schedule for permit modifications
- New language is added to § 270a.51 (relating to continuation of existing permits) to clarify when an expired permit continues in effect.
- Section 270a.60 is amended to eliminate the application of siting criteria for permit-by-rule facilities.
- The amendment to § 263a.12(3) (relating to transfer facility requirements) clarifies the responsibilities of hazardous waste transporters when a shipment is transferred from one transporter to another at a transfer facility.
- New language is added to § 270a.51 (relating to continuation of existing permits) to clarify when an expired permit continues in effect.
- Section 270a.60 is amended to eliminate the application of siting criteria for permit-by-rule facilities.
- The amendment to § 263a.12(3) (relating to transfer facility requirements) clarifies the responsibilities of hazardous waste transporters when a shipment is transferred from one transporter to another at a transfer facility.

WATER QUALITY STANDARDS IMPLEMENTATION - CHLORIDE AND SULFATE

This order was adopted by the Board at its meeting of September 17, 2002. The rulemaking went into effect upon publication in the *Pennsylvania Bulletin*

EXTENSION OF GENERAL PERMITS FOR THE BENEFICIAL USE OF SEWAGE SLUDGE BY LAND APPLICATION (PAG-7, PAG-8, PAG-9)

The current general permits are scheduled to expire December 23, 2002. The proposed extension will extend the current general permits, in their entirety, until June 23, 2003.

PROPOSED REVISION TO THE STATE IMPLEMENTATION PLAN FOR OZONE FOR THE PHILADELPHIA OZONE NONATTAINMENT AREA

This proposal is available on the Department's website at <http://www.dep.state.pa.us> (choose Information by Subject/Air Quality/Ozone/Clean Air Plans).

PROPOSED MODEL ORDINANCE FOR USE WITH THE STORMWATER MANAGEMENT PROTOCOL GUIDANCE DOCUMENT RELATED TO THE NPDES GENERAL PERMIT (PAG-13) FOR STORMWATER DISCHARGES FROM MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)

The proposed model ordinance is available on the Department's website at www.dep.state.pa.us (directLINK "stormwater").

NPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES (PAG-2); 2002 AMENDMENT

The Department of Environmental Protection is amending and renewing the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction Activities (PAG-2).

Final Technical Guidance

Guidelines for the Development and Implementation of Preparedness, Prevention and Contingency Plans for Generators and Burners of Waste Oil. This document provides a simplified alternative plan and example to the more comprehensive requirements in "Guidelines for the Development and Implementation of Environmental Emergency Response Plans" (Document I.D. 400-2200-001) to aid generators and burners of waste oil in complying with the preparedness, prevention and contingency requirements in 25 Pa. Code §§ 298.20 (g) and 298.60 (h).

The Department of Environmental Protection announces the availability of the renewed PAG-5.

The final General Permit has been posted on the Department's website at www.dep.state.pa.us; directLINK "NPDES Permits"; click on "General Permits."

NJ REGULATORY UPDATES

ACCELERATION OF BROWNFIELD CLEANUP AND REUSE ANNOUNCED BY NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

A new NJ DEP directive identifies and directs, pursuant to Executive Order No. 38, implementation of policy and program changes needed to reduce regulatory uncertainty, to reconcile business and regulatory decision timeframes, to expand potential reuses of brownfield sites, and to ensure that owners responsible for contamination no longer have the option of leaving their sites idle rather than meet their cleanup obligations. Each of these changes will be undertaken in consultation with DEP's partners in brownfield redevelopment: The Office of Smart Growth and other offices of the Department of Community Affairs; the Economic Development Administration and other offices of the Department of Commerce, the State Planning Commission, the Brownfields Task Force, municipalities, and other interested constituencies.

Definitions

The term "brownfield" refers to, abandoned, idled, or underutilized industrial or commercial sites where expansion, redevelopment or reuse is complicated by actual or perceived environmental contamination. Brownfield sites may also include sites that were once heavily contaminated and where clean-up has been completed but redevelopment has not been initiated.

The term "smart growth area" means the State's urban, suburban and rural population centers, the revitalization of which is essential to the prevention of sprawl and degradation of natural and agricultural resources and environmental quality. Smart growth areas shall be identified in coordination with the Office of Smart Growth in the Department of Community Affairs, the Economic Development Administration in the Department of Commerce, the State Planning Commission, municipalities, and interested constituencies.

Policy

DEP shall implement the following measures prospectively to encourage the remediation of reuse of brownfield sites, particularly in smart growth areas:

Reducing Regulatory Uncertainty

1. Office of Brownfield Reuse: The Department shall establish, within the Site Remediation Program, an Office of Brownfield Reuse. This Office shall serve as the focal point for the Department's brownfield programs, and shall be charged with informing the public and those interested in brownfield reuse, about these programs. Furthermore, this Office shall develop and implement new policies and programs to encourage brownfield remediation and reuse, and shall set priorities among brownfield sites that may be appropriate for accelerated cleanup and redevelopment and shall directly oversee the remediation of high priority brownfield projects identified by the Department.

2. Liability Reform: The Department shall not assert liability for damages or compensatory restoration against non-labile brownfield developers at sites at which there is no historical natural resource injury. This policy shall not diminish responsibility for restoration actions that are inherent in remedial activity.

3. No Further Action Letters: The Department shall issue No Further Action Letters for soils when remediation of soils at a brownfield property is complete, but groundwater contamination may remain. The Department shall also issue No Further Action Letters for groundwater when a Classification Exception Area has been established for a brownfield site and natural attenuation has been approved as the appropriate remedial action.

4. Letting Developers Get to Closing: The Department shall permit non-labile brownfield developers to perform as necessary, a well survey, potable well sampling and analysis, and a determination of groundwater flow direction, promptly within thirty (30) days after purchasing a brownfield property, rather than requiring such developers to perform these activities prior to purchase. The procedures of current and proposed technical regulations and manuals shall conform to this policy.

Aligning Regulatory and Redevelopment Objectives and Timetables

5. Area-wide Brownfield Reuse Program: The Department shall establish an area-wide brownfield development program that will enable communities to plan comprehensively for the remediation and reuse of multiple brownfield sites. The Department will assist these communities through coordinated remediation oversight of the brownfield properties and assist with the coordination of relevant programs both within the Department and within other federal and state agencies. The first sites selected shall be in Camden, Elizabeth, and Trenton, with further sites to be selected through application to the Department. This program shall compliment applicable brownfield programs and incentives.

6. Expanded Use of Market Tools: The Department shall encourage the use of financial and market instruments to help manage and allocate financial risks associated with the uncertainties of complex and long-term cleanups while providing communities with greater assurance that clean-up requirements will be met. These may include the use of sureties, insurance products, and trust fund mechanisms to: a) manage or reduce risks of uncertainty concerning potential costs of future remedial decisions; b) allow brownfield developers of single sites in areas affected by ubiquitous groundwater contamination to resolve their groundwater liability through establishment of a groundwater trust for DEP to use for future and comprehensive groundwater remediation efforts; c) ensure the reliability of institutional and engineering con-

NJ REGULATORY UPDATES

- DEP Brownfields Directive - Pg. 11
- Stormwater Controls - Pg. 12

trols, and where appropriate, to reduce the burden on the regulated communities of maintaining these controls; and; d) otherwise provide greater certainty to potential developers and greater assurance to communities that cleanup needs will be met.

7. "Clean-up Star" Program: The Department shall develop a "Clean-up Star" program to perform the role of environmental consultants and to accelerate brownfield site development. This program shall include the following elements:

- a) Following reasonable public notice of selection criteria and expected qualifications, DEP will establish a list of pre-qualified consultant professionals sufficiently qualified to oversee remedial work with minimal oversight;
- b) For developers and reasonable parties willing to select and fund the use of consultant professionals from the pre-qualified list and provide by contract with the consultant that the consultant will act at the direction of the DEP, DEP will make use of the consultant to expedite remedial analysis, evaluation and decisions;
- c) DEP will make this option available initially at sites presenting relatively low or moderate risk and less complex clean-up challenges;
- d) DEP shall develop appropriate auditing requirements and other safeguards to ensure that public health and environmental standards are rigorously enforced, and that pre-qualified professionals who perform inadequate work are removed from this list promptly;
- e) DEP shall convene an advisory group of interested constituencies and appropriate representatives of interested labor organizations to oversee and guide implementation of this initiative;
- f) The DEP labor management committee shall audit the program annually to ensure that it is not used to reduce or divert the internal staffing and resources devoted to site remediation;

8. Technical Review Panel: The Department shall establish a technical review panel, comprised of senior DEP technical staff, to expedite final clean-up decisions where remedial action has been delayed by disagreements between brownfield developers (or other responsible parties) and DEP case managers on the best approach to meeting standards and technical requirements to protect public health and the environment.

Expanding Potential Reuses of Brownfield Sites

9. Brownfields to Greenfields: The DEP Office of Brownfield Reuse shall coordinate with the Green Acres Program, the Division of

NJ REGULATORY UPDATES *(Continued from page 11)*

Fish and Wildlife, municipal officials, and community and environmental leaders to identify opportunities to pilot new potential reuses for Brownfield sites. This effort shall focus particularly on identifying brownfield sites that may be used for residential development projects, for local and regional parks, for recreation areas, for off road vehicle use areas, and for natural resources restoration. Where bonafide conservation groups have an interest in stewardship at sites being restored for these purposes. DEP shall develop appropriate prospective purchaser agreements to address potential liability arising from ownership. The Office of Brownfield reuse shall identify at least two "brownfield to greenfield" pilots over the next twelve (12) months.

Promoting Cleanup and Reuse of "Warehoused" Sites

10. Zero Tolerance for "Warehousing:" Where industrial owners of contaminated brownfield sites have chosen to "warehouse" the properties by leaving them abandoned and avoiding or delaying remediation, the Department shall assist impacted communities to ensure that a beneficial reuse occurs. Where appropriate, the Department shall utilize its enforcement authorities to acquire remediation. Where a municipality determines to require a warehoused property through condemnation, the Department shall, in appropriate circumstances, partner with the municipality by a) allowing the municipality to assume a leading role in implementing remedial action; b) by providing appropriate assurances concerning the scope of liability; and c) by ensuring the responsible parties pay for the cost of remediation.

The Assistant Commissioner for site remediation shall report to the Commissioner on progress and achievements in implementing this directive on or before January 1, 2004. This directive is a statement of policy intended for the fair and efficient administration of the Department of Environmental Protection and shall not be construed to create any legal or equitable rights or to provide the basis for any judicial or administrative remedy.

RT believes that this Policy Directive, announced in late November, could help to advance NJ's Brownfields Program. Reuse of Brownfield Sites in NJ, have been hampered by slow approvals and conflicting objectives. This directive helps give better direction to DEP staff and those involved in Brownfield Site Redevelopment, on how to proceed to reuse existing infrastructure and minimize sprawl. For more information call Tom Brady at 856-467-2276.

DEP PROPOSES STORMWATER CONTROLS TO PROTECT AND SUSTAIN NJ'S LIMITED WATER RESOURCES - New Rules Support and Encourage Smart Growth Practices

Department of Environmental Protection (DEP) Commissioner Bradley M. Campbell announced two proposed packages of regulations designed to reduce pollution in New Jersey's water resources caused by stormwater runoff and to help replenish vital groundwater supplies throughout the state.

The first set of proposals announced would update the state's Stormwater Management Rules, which have not been updated since their original adoption in 1983. The rules stress new performance standards for groundwater recharge, including both water quality and quantity controls and promote the integrity of the state's surface and groundwater resources.

The rules would require maintaining 100 percent of the average annual groundwater recharge, statewide, a major initiative toward mitigating against future droughts.

In addition to the recharge standards, the regulations also stress water quality controls. Statewide, these rules require the implementation of Best Management Practices (BMPs) for new development in order to reduce pollution runoff levels by 80 percent. These rules also provide the special protections needed for the state's quality waters, including drinking water reservoirs and streams that provide critical natural resource habitat, requiring the protection of vegetated areas along waterways designed as Category One (C1) water resources.

Consistent with Governor McGreevey's Smart Growth initiative, these rules further promote redevelopment in New Jersey's urban and older suburban areas by waiving the 100 percent recharge requirement in these areas. The rules also promote Smart Growth through the use of low impact site development techniques for stormwater management systems designed to maintain natural vegetation and drainage.

The second set of stormwater control proposals would require municipalities to develop control plans for stormwater runoff resulting from both existing and new development. These municipal stormwater permitting rules address U.S. Environmental Protection Agency's (EPA) federally mandated requirements for Phase II stormwater rules, which were published in December 1999. All 59 states are in the process of implementing these new permitting and stormwater management programs.

The permits will be issued for all municipalities; large public complexes such as colleges, prisons and hospitals; and highway systems operated by counties and other government agencies, such as the New Jersey Department of Transportation and the South Jersey Transportation Authority.

Through local ordinances and programs, as well as public outreach and education, municipalities would need to take common sense steps to reduce non-point source pollution, such as limiting unnecessary pesticide and fertilize treatments of lawns, proper disposal of yard and pet waste, retrofitting of storm sewer grates and better municipal maintenance yard management.

DEP developed both sides of stormwater control measures with significant input from regulated communities, including the New Jersey League of Municipalities, the New Jersey County Planners Association, and the Association of New Jersey Environmental Commissions. Developers, mayors and environmental groups were also heavily consulted in the rulemaking process.

The proposed rule packages were to appear in the January 6, 2003 New Jersey Register and are subject to a 60 day public comment period to afford simple public input on the rules.

(NJDEP - 12/10/02)

AREAS OF MOLD CONCERN IN BUILDINGS

- Areas of sewage spills, leaks or flooding which were not fully remediated and tested.
- Areas of porous building materials which were wetted, but not which were removed within 36 hours (including dry wall, insulation and ceiling tiles).
- Perimeter walls with elevated moisture content.
- Finished basement areas with wall or floor water seepage.
- Building areas with relative humidity > 60%, including building areas with no outside air changes.
- HVAC Systems with microbial growth in drip pans, filters and/or ducts.

- Building areas with door, window, exterior wall and/or roof leakage.
- Carpets which were improperly cleaned and padding which remained wet for more than 36 hours.

With insurance coverage being removed for mold claims, building owners and managers can't afford to take chances with undiscovered mold problems. Major portfolio owners now have pro-active programs in place to manage Indoor Air Quality, including procedures for handling complaints. To test specific areas or to set up an IAQ program for your building, call Peter Malik or Gary Brown at 610-265-1510.

TECHNOLOGY UPDATES

NSF TO TEST ARSENIC TREATMENT TECHNOLOGIES

NSF International has announced plans to verify new and innovative arsenic technologies through the Environmental Technology Verification (ETV) Drinking Water Systems (DWS) Center. The verification of drinking treatment technology will help small communities comply with the new arsenic regulation.

In 2001, the Environmental Protection Agency (EPA) issued a new arsenic maximum contaminant level (MCL) of 10 micrograms per liter. The EPA/NSF ETV DWS Center is coordinating ETV testing of arsenic treatment technologies in Pennsylvania and Alaska to help small communities meet the new MCL.

The ETV DWS Center and the Pennsylvania Department of Environmental Protection (PA-DEP) Innovative Technology Program have agreed to develop a cooperative arsenic treatment technology study. The proposed PA-DEP and ETV testing is expected to involve three Pennsylvania community water systems that have arsenic in their source water exceeding the new MCL, and that appear to be representative of other small communities. The ETV testing was to commence in Fall 2002.

The EPA ETV DWS Center (<http://www.nsf.org/etv/dws>) performs voluntary verifications of commercially ready drinking water treatment systems including packages plants, treatment modules and components. It focuses on water treatment technologies that benefit small communities by accelerating the introduction of new environmental technologies and by supplying equipment buyers and regulatory agencies with data on the performance of new technologies. The program also helps smaller communities comply with the Safe Drinking Water Act.

(Water World - October 2002)

CHESAPEAKE BAY'S HEALTH NOT IMPROVING

Promises by state governments and federal agencies to clean up Chesapeake Bay have made virtually no impact in the last five years, according to an annual report from the Chesapeake Bay Foundation. The nation's largest estuary rates a 27 out of 100 on the environmental group's health index for 2002, unchanged from last year and a long way from the organization's goal of reaching 40 by 2010.

The benchmark of 100 reflects the Chesapeake as described in the early 1600s, when clean water revealed meadows of underwater grasses, vast oysters reefs and abundant fish. "The improvements in the Bay have stalled," said Chesapeake Bay Foundation (CBF) senior scientist and director Kim Coble. "There is a good effort, but we need to see some changes in practices and in commitment from leadership to get moving."

The biggest threat to the Bay is nitrogen pollution, and the reports find that "regulators and Bay states have not yet taken meaningful long term steps to fix the problem." More than 300 million pounds of nitrogen - from fertilizers, ani-

mals wastes and other sources - flow into the bay every year, causing algae overgrowth that kills fish and harms the bay grasses that provide crucial habitat for crabs and small fish.

A reduction in nitrogen would improve each of the other 12 indicators used to measure the health of the Bay," Coble said.

One of the most difficult things about cleaning up the Bay is locating the source of pollution. The Chesapeake Bay watershed covers more than 64,000 square miles and encompasses parts of six states: Delaware, Maryland, New York, Pennsylvania, Virginia and West Virginia, as well as the District of Columbia. More than 15 million people live in the watershed, a population expected to grow to 18 million by 2010.

Nitrogen is not the only nutrient polluting the Bay. Phosphorus levels also need to be reduced, from the current 20 million pounds that enter the Bay each year to four million, according to CBF.

The report also found that more toxic chemicals were released into the Bay in 2002 than in previous years - evidence of an increase in actual releases of chemicals to waterways in Virginia and Maryland. 2002 also had an increased number of health advisories limiting fish consumption throughout the watershed due to toxic contaminants.

Maryland's famous blue crab population fared poorly in 2002, according to the report. Blue crabs dropped two points on the report's index, as the population suffered its third year of poor harvests.

The one positive in the State of The Bay 2002 report is the finding that the Bay's shad population improved, as efforts to encourage spawning runs in several Bay tributaries began to pay dividends. Still, the shad population remains severely depleted - rating seven on CBF's 100 point scale.

(By J.T. Pegg - Environment News Service - October 18, 2002)

CLEANER AIR LINKED TO BETTER HEALTH

Improving air quality through emissions controls can significantly reduce deaths due to heart and lung diseases, a new European population study suggests.

Over the past two decades, a large body of research has established the link between air pollution and an increased risk of death due to cardiopulmonary disease. The new study, which examined the long term health benefits of the 1990 ban of coal sales in Dublin, Ireland, is among the first to yield tangible evidence that public policy interventions can reverse that trend.

During the 1980's, Dublin's air quality deteriorated after many residents opted to switch from oil to cheaper and more readily available soil fuels to heat their homes. Prompted by this decline, the Irish government banned the marketing, sale and distribution of bituminous coals within the City of Dublin in September of 1990. Levels of black smoke pollution in the city fell by a whopping 70 percent.

TECHNOLOGY UPDATES

- Diesel Engines - Global Warming Answer? - Pg. 13
- World Water Crisis - Pg. 14
- Road Work Pollution Prevention - Pg. 15
- Reversing Lead Damage - Pg. 16
- Perchlorate Contamination -Pg. 17

"These changes were seen immediately in the winter following the introduction of the ban," said Harvard Professor Douglas Dockery, one of the report's co-authors. The improvements in air quality spanned all seasons. However, the effects were most noticeable in winter when heating demands tend to create the highest black smoke levels, Dockery said. The boost in air quality corresponded to a drop in heart and lung disease mortality, say the researchers, who examined death records for the six years before and after the coal ban's introduction. They found that deaths from respiratory diseases dropped by 15 percent, while cardiovascular disease mortality rates sank by 10 percent.

Another study appearing in the same issue of "The Lancet" suggests the health burdens caused by air pollution may be even greater than previously estimated. In the study, researchers from the Environmental and Occupational Health Unit at Utrecht University in the Netherlands studied the relationship between traffic related pollution and death rates. Over the course of eight years, the researchers followed a random sample of 5,000 people and estimated their long term exposure to emissions from vehicles.

People living within 164 feet (50 meters) of a major road or 328 feet (100 meters) of a major highway were twice as likely to die from heart and lung diseases as those who did not, the study found. The same mortality risk was not found among study participants who lived in areas located away from major roads, even when background levels of air pollution were otherwise equal.

(By: Maria Godoy, Environment News Service - 10/23/02)

CALIFORNIA CLEAN-AIR CZAR'S SHIFT IS NEW BOOST FOR DIESEL ENGINES

For three decades, Alan Lloyd has regarded diesel as a dirty word, synonymous with brown haze and cancer causing brown soot. It's a view that he has shared with environmental activists across the U.S.

But in a striking change of heart that could alter the kinds of cars and trucks Americans drive, the chairman of the powerful California's Air Resources Board is taking a new look at diesel vehicles. He thinks they are poised to emerge as part of the solution to a different environmental problem that's gaining more attention in the U.S.: global warming.

Coming from the head of California's pugnacious clean-air agency, that amounts to environmental apostasy. In the decades following World War II, California was a main instigator of the

TECHNOLOGY UPDATES (CONTINUED)

world's fight against smog, and it has waged that battle aggressively ever since. CARB's mandates for pollution cuts in everything from gas cans, to lawnmowers to 18 wheelers have been celebrated by environmentalists, criticized by industry and mimicked by national governments from Washington to Europe.

Nowhere has CARB been more aggressive than in its campaign to clean-up automobiles - a priority that reflects California's position as the nation's biggest single auto market; accounting for 12% of U.S. sales. Over the years, CARB's edicts have often shaped Environmental Protection Agency policy and thus the way Detroit designs cars.

But now, Dr. Lloyd is being forced to address the issue of global warming, and here, diesel engines are the greener option because they don't pump out as much so-called greenhouse gas as gasoline engines do. Diesels still aren't as clean as their gasoline-powered cousins in terms of smog pollutants. But Dr. Lloyd says he has concluded that a new generation of high-tech diesels developed for Europe bears little resemblance to the smoke-spewers that Americans remember from the 1970s and the 1980s. He says he thinks it's possible that within five years - tomorrow in the world of cars and trucks - the auto industry will have bridged the gap.

"Ten years ago, I wouldn't have believed what I'm telling you now," says Dr. Lloyd, who in the past several weeks has begun a series of closed-door meetings with auto-industry officials to discuss several clean-car technologies. "However, we have confidence that, given our past history, the auto-industry will rise to the challenge, and we will have light-duty diesel in the U.S. and California."

Dr. Lloyd isn't the only environmental official reassessing diesel. Earlier this year, EPA tested a new version of a diesel car from Toyota Motor Corp. that's under development for future sale in Europe. The agency concluded that the car already meets a round of tough new smog standards that are set to phase in between 2003 and 2007 in the U.S. EPA officials are scheduled to explain those test results today at an auto-industry conference in San Diego. And they expect to test more diesel cars, as well as sport-utility vehicles from other manufacturers before the end of the year.

"Clean diesel sounds like an oxymoron," says Margo Oge, head of the U.S. Environmental Protection Agency's Office of Transportation and Air Quality. "It's not."

Detroit's Big Three and their European and Japanese rivals face growing pressure to make their vehicles more fuel efficient to reduce dependence on Middle East oil and help low global warming. Though the U.S. says that it won't ratify the Kyoto treaty to curb global warming the specter of the California automotive greenhouse-gas-law - the first in the nation - and the likelihood of tougher, fuel economy standards, have the auto industry scrambling to make its vehicles more efficient. As "light trucks", a category that includes; SUVs, pickup trucks and minivans, have soared into popularity in the US, they've dragged down the average fuel

economy of the fleet to the lowest level in two decades.

The industry argues that esoteric technologies such as battery-powered vehicles are impractical and won't sell. With increasing frustration and urgency, auto makers are making the pitch to American regulators that a smarter response to the country's fuel consumption can be found in the success of diesels across the Atlantic.

At the center of the debate is a contraption invented in the 1890s by the Paris born German scientist Rudolph Diesel. Unlike the traditional internal-combustion engines, which generates a spark to ignite fuel compressed with air in a cylinder, Dr. Diesel's motor compresses the air inside the cylinder much more, making the air so hot that it when fuel hits it, it explodes without need of a spark.

Dr. Diesel's "compression ignition" process produces more energy per unit of fuel than the spark method does. But because its combustion occurs at such high temperatures, the process also produces more nitrogen oxide, which contributes to smog. And because the diesel engine mixes the fuel with the air later than a gasoline engine does, some of the fuel remains unburned, producing soot particles.

Over the years, diesel's relative efficiency won supporters on a continent where energy has traditionally cost more than in the US. After World War II, many European governments intentionally began stoking the diesel trend, implementing fuel taxes, that to this day, make diesel cheaper at the pump than gasoline. In Germany, a gallon of diesel costs an average of 3.32 (\$3.25), while a gallon of standard unleaded gasoline costs 4.01.

Dr Lloyd's reassessment of diesel was sparked by a chat that he had in July with his boss; Gov. Gray Davis. They were standing in a log cabin in the Presidio, a San Francisco park overlooking the Golden Gate Bridge, at a reception held after Gov. Davis signed the bill to cut automotive greenhouse-gas emissions.

The California legislation, set to take effect in 2009, marked a big defeat for auto makers. They saw it as threatening their ability to keep selling SUVs and pickups in the state that's the biggest auto market in the nation. Even before the measure passed the legislature, industry officials said that they would challenge it in court.

Gov. Davis' message to Dr. Lloyd at the Presidio was to try to head off a blowup over the greenhouse-gas-law. He said, "I want you to sit down with the auto companies and try to work something out," Dr. Lloyd recalls. He said "I don't want to put the auto industry out of business. We need to work together." and I said, "I get the message."

Two weeks later, in early August, Dr. Lloyd headed to Michigan for the auto industry's annual get-together in the resort town of Traverse City. He sat up and took notice when he heard several presentations on the advances diesel have made in Europe, particularly one from Gerhard Schmidt, head of research at Ford Motor Company, and preciously a diesel expert at Germany's Bayerische Motoren Werke AG. "Diesel emissions are not where we want them to be yet, but the trend is downward," Dr. Lloyd

concluded approvingly.

Auto executives who have spoken to Dr. Lloyd recently say they're taken aback by his new attitude. Reginald D. Modlin, director of environmental and energy planning for Chrysler, reported the news to his home office near Detroit after he talked recently with the regulator. "We took it back and said, 'Alan just said something good about diesel!'" Mr. Modlin recalls.

The big question is whether the industry will figure out how to make diesels that meet the new anti-smog rules. Unlike current standards, the new ones demand that diesels achieve the same low pollution levels as gasoline cars for nitrogen oxide, soot particulate and other pollutants. For an average passenger car, the new rules will require a 77% drop in nitrogen oxide emissions and an 88% drop on particulate emissions.

In practice, the standards will be even tougher in California than elsewhere in the country. Washington's rules will let auto makers sell some diesel vehicles that emit more than the mandated average amount of some pollutants, as long as the companies offset those dirty vehicles with some extra clean ones. But the California rules require all vehicles to meet the average.

Auto executives say that they are hopeful, but not certain, they'll be able to meet the anti-smog standards by 2007. Asked to rate the probability, Ford's Dr. Schmidt says: "I would grade it higher than 50%."

Industry researchers are working on two main technologies. One is a "trap" to catch more soot particles before they are sent out to the tailpipe. Another is a "catalyst" to collect nitrogen oxide and then break up most of it into nitrogen and oxygen that would be released harmlessly into the air. A big hurdle is that the nitrogen-oxide device won't work reliably with today's US diesel fuel, which contains a lot more sulfur than European diesel does. New EPA rules lowering the sulfur content of US diesel to levels the auto industry says are acceptable aren't scheduled to take effect until 2006.

Dr. Lloyd has his own incentive to resolve the fight: guarding California's ability to keep pushing the environmental envelope which would be threatened if auto makers win the legal and political argument that California's regulations are too extreme. "There will be some people on the environmental side who will be unhappy," the CARB chief says. "I'm getting older - I hope wiser - in some of these cases. I realize you have limited time as you try to work things out. And trying to waste energy with hot rhetoric, it's not worth the time."

(By Jeffery Ball - The Wall Street Journal - 10/24/02)

WORLD COULD FACE WATER CRISIS IN 20 YEARS, RESEARCHERS WARN

Unless governments reform their water policies and increase spending on technology and infrastructure, the world will face threats like global food supply, further environmental damage and on-going health risks for the hundreds of millions of people lacking access to clean water, according to a report by the International Food Policy Research Institute and the International

TECHNOLOGY UPDATES (CONTINUED)

Water Management Institute.

The report projects that by 2025, water scarcity will cause annual global losses of 350 million metric tons of food production - slightly more than the entire current U.S. grain crop.

According to the researchers, water use for households, industry and agriculture will increase by at least 50 percent in the next 20 years, due in part to rapid population growth and urbanization in developing countries.

However, fundamental changes in water policies and investment priorities could achieve substantial benefits and sustainable use of water, the researchers say. For example, they recommend pricing water to reflect its cost and value. Governments should also increase investment in crop research, technological change, and rural infrastructure, to boost water productivity and growth of crop yields to rain-fed farming, which will account for one-half the increase in food production between 1995 and 1025, according to the researchers.

(*Environment News Service - 10/28/02*)

TIPS: PREVENT STORMWATER POLLUTION FROM ROAD-WORK, PAVEMENT CONSTRUCTION

According to *Blueprint for a Clean Ocean*, a brochure on preventing storm water pollution from construction related activities, road-work and pavement construction can create significant storm water pollution.

"Road paving, surfacing and asphalt removal happen right in the street, with numerous opportunities for storm water pollution from the asphalt mix, saw cut slurry or excavated material," the brochure states. "Properly proportioned asphalt mix and well compacted pavement avoid a host of water pollution problems."

The following best management practices highlighted in the brochure, courtesy of the Public Works Department of the City of Rancho Palos Verdes, Calif., help minimize storm water discharges:

- Apply concrete, asphalt and seal coat during dry weather to prevent contaminants from contacting storm water runoff.
- Cover storm drain inlets and manholes when paving or applying seal coat, slurry seal, fog seal, etc.
- Always park paving machines over drip pans or absorbent materials, since they tend to drip continuously.
- When making saw cuts in pavement use as little water as possible. Cover each catch basin completely with filter fabric during the sawing operation, and contain the slurry by placing straw bales, sand bags or gravel dams around the catch basin. After the liquid drains or evaporates, shovel or vacuum the slurry residue from the pavement or the gutter, and remove it from the site.
- Wash down exposed aggregate concrete only when the wash water can: 1) flow onto a dirt area; 2) drain onto a bermed surface from which it can be pumped and disposed of properly; 3) be vacuumed from a catchment created by blocking a storm drain inlet. If necessary, place straw bales downslope, or divert

runoff with temporary berms. Make sure runoff does not reach gutters or storm drains.

- Allow aggregate to settle, and pump the water to the sanitary sewer if allowed by your local wastewater authority.

- Never wash sweepings from exposed aggregate concrete into a street or storm drain. Collect and return to aggregate base stockpile, or dispose with trash.

- Recycle broken concrete and asphalt.

(*Environment News Service - 10/28/02*)

STUDY: HALF OF PLANT SPECIES MAY BE AT RISK

Human activities are threatening to wipe out one-quarter to one-half of Earth's plant species, a study suggests.

Earlier studies had estimated that only about 13 percent of all plant species are in danger of extinction. But Nigel C. A. Pitman of Duke University and Peter M. Jorgensen of the Missouri Botanical Garden in St. Louis said those estimates did not take into account the plants at risk from environmental change in the tropics where most of the world's plant species grow.

In a study appearing in the journal, *Science*, Pitman and Jorgensen determined that about 83 percent of the plant species are threatened in Ecuador, a country with a botanical richness typical of tropical countries.

Extrapolating this data to the entire world suggests that 22 percent to 47 percent of all of Earth's plant species are in danger of becoming extinct, Jorgensen said. The demand for new farmland to feed a growing population in tropical countries is the biggest cause of global plant species extinction, he said. "The natural forest is being cut down and burned and the land converted into pastures and fields for crops," Jorgensen said.

A gradual global warming may aggravate the species loss, he said, because wide open, cultivated areas prevent the natural migration of plants in response to climate change. "Plants that need to move around to find a cooler place to grow can't move, because there are farmers in the way."

(*By Paul Recer, The Philadelphia Inquirer - 11/1/02*)

MICROBES HELP CLEAN CONTAMINATED HARBOR MUD

Microorganisms are cleaning up contaminants in the mud beneath Boston Harbor finds a new study from the University of Massachusetts at Amherst.

The study suggests that if humans prevent future fuel spills and leaks, the harbor could cleanse itself within the next 10 to 20 years. These findings are detailed in the November 15 issue of the journal "Environmental Science and Technology."

Scientists had already determined that these contaminants, called polycyclic aromatic hydrocarbons, or PAHs, could be biodegradable if suspended in water. But it was believed that once PAHs sank into the silt at the bottom of the har-

bor, they could not be oxidized or degraded - a theory that the new study challenges.

This is important because it demonstrates that the self purification capacity of the harbor is much greater than previously recognized," said U Mass microbiologist Derek Lovley, a coauthor on the paper. "Furthermore, if future spills of the contaminants can be eliminated, the harbor may get cleaned up in large part due to natural activity without the requirement of expensive remediation strategies. It does give us hope for the longer term, if practices change."

Marine harbors are often polluted with contaminants from fuel spills, industrial waste, shipping activities, runoff, soot, creosote treated pilings, Lovley said. Although some chemical portions of these contaminants degrade, PAHs tend to accumulate in the sediment.

They're not very soluble in water, and they don't react chemically with many other compounds," said Lovley, "so they collect in the mud at the bottom of the harbor."

Previous research has shown the PAHs accumulate in fish and other aquatic animals, and are often associated with cancers in some fish. Some PAHs are toxic and are suspected to cause cancer in humans.

The U Mass team was prompted to study the issue after earlier research by Lovley found that benzene degrades in the absence of oxygen, in certain conditions. PAHs are groups of two to five benzene rings, Lovley explained.

The key component in the microbial action appears to be the existence of sulfate in the water, said Lovley. "As long as there is sulfate in the water, the PAHs can degrade slowly."

(*Environment News Service - 11/14/02*)

STUDIES DIFFER ON RISKS OF EATING MERCURY-TAINTED FISH

Two studies have yielded contradictory findings about the possible heart dangers of eating mercury-tainted fish.

Plenty of research shows that mercury accumulated from fish can harm the developing brain of a fetus or child. Far less is known about how the toxic widespread pollutant affects the heart.

Two studies in the New England Journal of Medicine on the long-term effects of mercury exposure on the hearts of middle-aged and elderly men had opposite findings.

One found no clear link between mercury levels in the body and the risk of developing heart disease; the other found men who had suffered a heart attack had a higher mercury levels than similar men who had not.

That left the researchers, the Food and Drug Administration officials and other experts agreeing on just two things: More research is needed and people should not stop eating fish, because minerals and fatty acids in fish protect the heart. Also, many fish such as salmon and shrimp, contain little or no mercury.

"The bottom line is, yes, you should eat fish and yes, you should know which fish have mercury levels considered unsafe," said Dr. Daniel Schindler, a cardiologist at Robert Wood Johnson Medical School in New Brunswick, who was not involved in either study.

TECHNOLOGY UPDATES (CONTINUED)

The FDA Environmental Protection Agency and many state agencies report such information. For years they have warned that women who are pregnant, nursing or of childbearing age to avoid fish from mercury-contaminated waterways, and long lived predators such as sharks and swordfish, which accumulate mercury from all the smaller fish they eat.

The American Heart Association, citing, new research showing the omega 3 fatty acids in fish reduce the risk of heart disease, reiterated its guidelines that people eat at least two servings of fish per week, preferably fatty fish.

One of the New England Journal studies indicated that the mercury contamination in fish offsets the benefits of a key fatty acid, DHA. Researchers at the Johns Hopkins Bloomberg School of Public Health reviewed data and tissue samples from an earlier, nine -country European cardiac study.

They compared 684 middle-aged men who have had one heart attack with 724 similar men who have had a heart attack. They looked at the men's health history, the use of tobacco and alcohol, and toenail clippings and fat withdrawn from their buttocks.

Toenails hold accumulated mercury, and fatty tissue accumulates DHA; their levels were nearly 2.2 times more likely than those with the lowest levels to have had a heart attack, said Dr. Eliseo Gualler, Assistant Professor of Epidemiology at Hopkins.

Researchers at Harvard School of Public Health studied 470 men who have had heart surgery or a heart attack, comparing each with a similar man without heart disease.

Dr. Walter C. Willett, a professor of epidemiology and nutrition, said mercury levels in the men's toenails, corresponded well with the levels of fish they reported eating, but his team found no association between mercury exposure and the risk of heart disease.

The new studies looked only at men, and Schindler said the findings cannot necessarily be applied to women, because of weight and other gender differences.

(By Linda A. Johnson - Daily Record - 11/28/2002)

HUMAN PRESSURE ON EARTH'S CARRYING CAPACITY RISES

Humanity is putting increasing pressure on global ecosystems, with its consumption exceeding the Earth's biological capacity by 20 percent, according to a new report from the Sustainability Program of Redefining Progress, a nonprofit, nonpartisan public safety policy organization.

The biosphere needs about one year and three months to renew what humanity consumes in a year, the report found.

The organization's latest "Ecological Footprint of Nations" report analyzes the ecological impact of 146 of the world's nations, demonstrating to what extent a nation can support its resource consumption with its available ecological capacity.

The report uses ecological footprint accounts to provide a measurable estimate of humanity's pressure on global ecosystems.

The "Ecological Footprint" measures the biologically productive area required to produce the food and wood people consume, to supply space for infrastructure, and to absorb the greenhouse gas carbon dioxide emitted from burning fossil fuels.

The global ecological footprint in 1999 was 5.6 global acres per capita, while the Earth's biocapacity was 4.7 global acres. In metric terms, these measurements are 2.3 global hectares per capita and 1.9 global hectares per capita.

According to the report, "The bottom line for sustainability thus becomes - how can each person have a satisfying life within the average of 4.7 global acres per person or less? This is the most significant challenge for research, business and politics."

The analysis is primarily based on data published by the United Nations and the Intergovernmental panel on Climate Change. The data from 1999 is the most recent available to scientists.

"Humanity's Ecological Footprint exceeds the Earth's biological capacity by 20 percent," said Sustainability program director Mathis Wackernagel, one of the report's three authors. Many nations, including the United States, are running even larger ecological deficits. As a consequence of this overuse, the human economy is liquidating the Earth's natural capital."

The report is available for download at: www.RedefiningProgress.org/publications/efl1999.pdf.

(Environment News Service - 12/01/02)

SOIL'S TINIEST ORGANISMS COULD SOLVE HUGE PROBLEMS

There is a wealth of new species under our feet awaiting discovery, especially in the still unknown portions of the tropics, which represents "a huge new genetic resource" the top United Nations environmental agency said recently: amoebas, protozoa, netatodes, mites, termites, ants earthworms. Life forms that inhabit the soil are the least known of all life forms on Earth, and scientists are discovering that they can profoundly affect planetary patterns.

Calling it "the largest source of untapped life left on Earth," the UN Environment Program (UNEP) has announced a new \$26 million project to understand and utilize the life forms underground. It is one of the more "unusual, curious but absolutely vital projects UNEP has undertaken," said the agency's executive director Klau Toefer as he announced the project.

In the hope that this "genetic treasure trove" will yield new drugs, antibiotics and industrial products, the project will initially target "below ground bio-diversity" in seven tropical countries - Brazil, Mexico, Cote d'Ivoire, Uganda, Kenya, Indonesia and India. The countries chosen for study, are those thought to have the richest below ground bio-diversity.

One gram of tropical forest soil may contain up to 40,000 individual bacterial species, the agency said, many of which have never been described. Bacteria and fungi in the soil can clean drinking water sources. They help eliminate pollutants and germs from groundwater as it per-

colates through the soil to reservoirs, boreholes and other freshwater sources.

(Environment News Service - 12/01/02)

ENRICHED ENVIRONMENTS MAY REVERSE LEAD DAMAGE

Environmental enrichment that stimulates brain activity can reverse the long term learning deficits caused by lead poisoning, new research suggests.

Doctors have long known that lead poisoning in children affects their cognitive and behavioral development. Despite efforts to reduce lead contamination in homes, childhood lead poisoning, remains a major, public health problem, with an estimated 34 million housing units in the United States containing lead paint.

Researchers at the John Hopkins Bloomberg School of Public Health have become the first to demonstrate that the long term deficits in cognitive function caused by lead can be reversed, and to offer a basis for the treatment of childhood lead intoxication.

"Lead exposure during development causes long-lasting deficits in learning in experimental animals, but our study shows for the first time that these cognitive deficits are reversible," said a lead author, Dr. Tomas Guilarte, a professor of environmental health sciences at Hopkins.

"This study is particularly important for two reasons," Guilarte added. "First, it was not known until now whether the effects of lead on cognitive function were reversible. Secondly, the environmental enrichment that reversed the learning deficits was administered after the animals were exposed to lead. Environmental enrichment could be a promising therapy for treating millions of children suffering for the effects of lead poisoning."

For their study, Guilarte, graduate student Christopher Toscano, research technologist Jennifer McGlothlan, and research associate Shelly Weaver observed groups of lead treated or non-treated rats that were raised in an enriched environment.

To measure the learning ability of rats in the various treatment groups, the researchers trained each rat to find a submerged, invisible platform in a pool of water, called the water maze. On each day of training, they timed how long each rat took to find the platform.

They observed that both the lead exposed and control rats living in the enriched environment, learned to find the platform within 20 seconds or less within the four-day training period. The isolated control rats took longer to find the platform, while lead exposed isolated rats took the longest - and almost 50 percent of them failed to learn the test by the last day of training.

The study, "Environmental Enrichment Reserves Cognitive and Molecular Deficits Induced by Developmental Lead Exposure," appears in the December 2002 edition of the journal "Annals of Neurology."

(Environment News Service - 12/03/02)

SCRAP TIRES BECOME RECYCLING SUCCESS STORY

More than 75 percent of scrap tires generated

TECHNOLOGY UPDATES (CONTINUED)

in the U.S. are being put to productive uses, according to a report issued by the Rubber Manufacturers Association (RMA).

State cleanup programs and effective regulations continue to reduce stockpiled scrap tires, the report notes, despite an increasing vehicle population on the nation's roads over the past decade.

"Since 1990, RMA and its members have not only worked with state regulators and legislators to create effective scrap tire cleanup programs but we also have worked with public officials and the private sector to promote end use markets for scrap tires," said Michael Blumenthal, RMA senior technical director.

The use of scrap tires in end use markets has soared from 11 percent to 77 percent since 1990. Almost 220 million scrap tires were used in end markets in 2001.

Scrap tires are used in a number of productive and environmentally safe applications. One of the most common markets for scrap tires is ground rubber, which is used to make playgrounds surfaces, running tracks and molded rubber goods.

The largest use for ground rubber continues to be asphalt rubber, which is used in road construction. However, some obstacles remain to the broader use of asphalt rubber.

According to RMA, the fastest growing market for scrap tires is civil engineering. Shredded scrap tires are used as fill for construction of highway embankments and bridge abutments. They also are used in landfill construction projects in leachate collection systems as well as gas venting systems and as part of the cap closure.

About 40 percent of scrap tires are used as a supplemental fuel, called tire derived fuel (TDF), in the cement, paper and electrical industries.

Of the 300 million tires still in stockpiles, about 85 percent are located in nine states - Texas, New York, Michigan, Alabama, Ohio, Colorado, Connecticut, Pennsylvania and West Virginia. Five of those states - New York, Alabama, Texas, Michigan and Colorado - either have no comprehensive scrap tire management program or are not focusing their current program on stockpile abatement.

"RMA will continue to work with state regulators and legislators to develop and implement safe and effective scrap tire cleanup and management programs," Blumenthal said.

(Environment News Service - 12/06/02)

AS PERCHLORATE CONTAMINATION GROWS, SO DO TROUBLES OF PROPERTY DEVELOPERS

Several of the nation's fastest growing areas - including Las Vegas, Texas and Southern California could face debilitating water shortages because of groundwater contamination by perchlorate, the main ingredient of soil rocket fuel.

The chemical dumped widely during the Cold War at military bases and defense industry sites, has seeped into water supplies in 22 states. The U.S. Environmental Protection Agency and the Department of Defense are embroiled in a bitter dispute over perchlorate's health effects, with the

EPA recommending a strict drinking water limit that the Pentagon opposes as too costly. Yet even without a national standard, state regulators and water purveyors are taking no chances: Dozens of perchlorate-tainted wells have been shuttered nationwide, casting a pall on growth plans in several parched areas.

Perchlorate is what scientists call, an endocrine disrupter, a chemical that can alter hormonal balances - thyroid hormones, in this case - and thus impede metabolism and brain development, particularly among newborns. The chemical isn't believed to enter the body through the skin, so bathing in contaminated water isn't considered dangerous. The real debate is over how much ingested perchlorate causes harm.

The EPA has urged the Pentagon to undertake widespread testing for perchlorate in groundwater, but the Defense Department has resisted. It's official policy, issued last month, allows testing only where a "reasonable basis" exists to suspect perchlorate contamination is both present and "could threaten public health."

One major problem is that perchlorate is turning up in many unexpected places, including military training and test ranges, where rockets and missiles - with their large quantities of soil propellants - aren't believed to have been used. Some scientists believe other types of munitions that used tiny amounts of perchlorate may be the culprits. Many of the ordinary military ranges with perchlorate pollution lie on the outskirts of growing cities, in places that were once distant from civilian neighborhoods, but now serve as watersheds and open space for sprawling communities.

For example, though the Navy said no perchlorate was used at the firing range at the Marine Corps Air Station in El Toro, CA, the chemical showed up in groundwater tests beneath a site considered for a public park. The plume that has curtailed 20% of the water supply of Aberdeen, MD., outside of Washington, D.C., began at Aberdeen Proving Ground, an Army training and munitions-test site. Representatives for the Army and the National Guard, acknowledge the perchlorate plumes originated from their ranges, and both services have assigned large teams of environmental experts to address the problem.

"Perchlorate is throwing a wrench in the works all over," says Lenny Siegal, who runs the Center for Public Oversight, a non-profit group in Mountain View, CA, that works with communities on military cleanups. "They've only started looking for it recently, and as far as I know, everywhere they've looked, they've found it."

Perchlorate has also turned up, from unknown causes, in the Ogallala aquifer, the major water source for the nine West Texas counties near Midland. So far, no wells have been shut, though concentrations have been detected as high as 30 parts per billion, or 30 times what the EPA recommends as safe. Warnings have been issued in some areas for people not to drink the water. Elsewhere in Texas, near Waco, the chemical has surfaced in wells at McGregor Naval Weapons Plant and downstream in the South Bosque River, which supplies water to the city of Waco.

In Nevada, the drinking supply for Las Vegas, which draws most of its water from Lake Mead

above the Hoover Dam, this year contained perchlorate in levels 19 times what EPA says is safe, according to the data provided by the Southern Nevada Water Authority.

In nearby Henderson, perchlorate concerns are complicating plans to build a 9,000 home community on the 2,300 acre site of old industrial waste ponds drained toxic substances from several factories, including the one that manufactured the perchlorate that seeped into Lake Mead and the Colorado River.

(By Peter Waldman - The Wall Street Journal - 12/27/02)

MERCURY FROM CHINA RAINS DOWN ON CALIFORNIA

The mercury in rainwater is not itself a health threat, but mercury pollution as a problem in San Francisco Bay and other California waters because the toxic element builds up in the food chain. State regulatory agencies are looking for ways to reduce the amount of mercury entering the state's waters from various sources.

It is not just the mercury itself but a whole cocktail of atmospheric pollutants that contribute to the deposition of mercury in rainfall. Elemental mercury behaves as a gas in the atmosphere and is not washed out in rain until it has been oxidized into a charged ionic form that can be captured by water droplets.

Ozone, a major component of urban and industrial smog, plays a key role in this oxidation process, said Douglas Steding, lead author of paper published in the online edition of the "Journal of Geophysical research - Atmosphere ." The report by Steding and other researchers from the University of California, Santa Cruz (UCSC) also appeared in a print edition of the journal.

"There is a relatively large reservoir of mercury in the atmosphere, and it's rate of oxidation that determines how much of it gets deposited in rainfall," Steding said.

"The mercury we measure in rainwater results from a combination of mercury emissions and ozone production, as well as meteorological factors - the storm tracks the transport pollutants across the Pacific," Steding said.

Steding collected rainwater samples at two sites in central California: on the coast at UCSC's Long Marine Laboratory and Moffett Field near San Jose, on the inland side of the Santa Cruz Mountains.

Rainwater collected at the coastal site showed the background concentrations of mercury in storms as they arrived off the Pacific Ocean. Those measurements were about three times higher than estimates of the natural, pre-industrial level, Steding said.

Rainwater from the inland site showed mercury concentrations 44 percent higher than at the coastal site. Steding attributed the difference between the two sites to ozone in Bay Area smog, rather than local emissions of mercury.

Steding said people should not worry about health effects from the mercury in rainwater, because the concentrations are very low. But the deposition in rain does add mercury to surface waters, where the toxin enters the food chain and builds up to high levels in certain kinds of fish.

(Environment News Service - December 21, 2002)

FEDERAL REGISTER NOTICES

ENVIRONMENTAL PROTECTION AGENCY - FEDERAL REGISTER NOTICES

<http://www.epagov/homepage/fedrgstr/>

Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Iron and Steel Manufacturing Point Source Category; Final Rule

(Federal Register, 10/17/02)

National Emission Standards for Hazardous Air Pollutants for Friction Materials Manufacturing Facilities; Final Rule

(Federal Register, 10/18/02)

Approval and Promulgation of Air Quality Implementation Plans; New Jersey; Open Market Emissions Trading Program

(Federal Register, 10/18/02)

National Emission Standards for Hazardous Air Pollutants: Publicly Owned Treatment Works; Final Rule

(Federal Register, 10/21/02)

Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act; National Primary Drinking Water Regulations; and National Secondary Drinking Water Regulations; Method Update; Final Rule

(Federal Register, 10/23/02)

Unregulated Contaminant Monitoring Regulation: Approval of Analytical Method for Aeromonas; National Primary and Secondary Drinking Water Regulations: Approval of Analytical Methods for Chemical and Microbiological Contaminants; Final Rule

(Federal Register, 10/29/02)

Approval and Promulgation of Implementation Plans; New Jersey; Motor Vehicle Enhanced Inspection and Maintenance Program; Proposed Rule

(Federal Register, 11/05/02)

Control Emissions From Nonroad Large Spark-Ignition Engines and Recreational Engines (Marine and Land Based); Final Rule; This final rule is effective January 7, 2003

(Federal Register, 11/08/02)

Emission Standards Benzene Waste Operations; Direct final rule amendments

(Federal Register, 11/12/02)

Guidelines Establishing Test Procedures for the Analysis of Pollutants; Whole Effluent Toxicity Test Methods; Final Rule

(Federal Register, 11/19/02)

National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks; Proposed Rule Amendments

(Federal Register, 11/19/02)

Approval and Promulgation of Air Quality Implementation Plans; Six Measures to Meet EPA - Identified Shortfalls in Delaware's One-Hour Ozone Attainment Demonstration; Final Rule

(Federal Register, 11/22/02)

Federal Plan Requirements for Commercial and Industrial Soil Waste Incinerators Constructed on or Before November 30, 1999; Proposed Rule

(Federal Register, 11/25/02)

National Primary Drinking Water Regulations: Minor Revisions to Public Notification Rule, Consumer Confidence Report Rule and Primary Rule; Final Rule

(Federal Register, 11/27/02)

Draft Guidance for Evaluating The Vapor Intrusion to Indoor Air Pathway From Groundwater And Soils (Subsurface Vapor Intrusion Guidance); Notice

Comments will be received until February 27, 2003

(Federal Register, 11/29/02)

Notice of Availability; National Primary and Secondary Drinking Water Regulations; Approval of Analytical Methods for Chemical and Microbiological Contaminants; Additional Information on the Colitag™ Method

(Federal Register, 12/02/02)

National Emission Standards for Hazardous Air Pollutants: Surface Coating of Plastic Parts and Products; Proposed Rule

(Federal Register, 12/04/02)

General Assessment Endpoints for Ecological Risk Assessments (External Review Draft); Notice Availability

(Federal Register, 12/04/02)

National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

(Federal Register, 12/06/02)

FEDERAL REGISTER NOTICES

ENVIRONMENTAL PROTECTION AGENCY - FEDERAL REGISTER NOTICES

<http://www.epa.gov/homepage/fedrgstr>

Control of Air Pollution From New Motor Vehicles: Amendments to the Tier 2 Motor Vehicle Emission Regulations; Direct Final Rule

(Federal Register, 12/06/02)

New Jersey: Final Authorization of State Hazardous Waste Program Revision; Immediate Final Rule

(Federal Register, 12/16/02)

National Emission Standards for Hazardous Air Pollutants for Taconite Iron Ore Processing; Proposed Rule

(Federal Register, 12/18/02)

National Emission Standard for Hazardous Air Pollutants for Lime Manufacturing Plants; Proposed Rule

(Federal Register, 12/20/02)

National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries; Proposed Rule

(Federal Register, 12/23/02)

Minor Clarification of National Primary Drinking Water Regulation for Arsenic; Proposed Rule

EPA is proposing to revise the rule to express the standards as 0.010mg/L

(Federal Register, 12/23/02)

National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks; Proposed Rule

(Federal Register, 12/24/02)

Regulatory Innovations: Pilot-Specific Rule for Electronic Materials in the EPA Region III Mid- Atlantic States; Hazardous Waste Management System; Modification of the Hazardous Waste Program; Cathode Ray Tubes

EPA is taking direct final action on a revision to its hazardous waste program under RCRA to exclude used CRTs and glass removed from CRTs from the definition of "soil waste" in EPA Region III Mid-Atlantic States

(Federal Register, 12/26/02)

National Pollutant Discharge Elimination System - - Amendment of Final Regulations Addressing Cooling Water Intake Structures for New Facilities; Rule and Proposed Rule

(Federal Register, 12/26/02)

Report to Congress on the Impacts and Controls of Combined Sewer Overflows and Sanitary Sewer Overflows; Availability of Public Health Experts Workshop Summary (EPA 833-R-02-002)

(Federal Register, 12/26/02)

National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production; Final Rule

(Federal Register, 12/20/02)

Modification of National Pollutant Discharge Elimination System (NPDES) Permit Deadline for Stormwater Discharge for Oils and Gas Construction Activity That Disturbs One to Five Acres of Land; Proposed Rule

(Federal Register, 12/30/02)

Notice of Tentative Approval and Solicitation of Requests for a Public Hearing of Public water System Supervision Program Revision for the Commonwealth of Pennsylvania

(Federal Register, 12/30/02)

Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR); Final Rule and Proposed Rule

(Federal Register, 12/31/02)

National Ambient Air Quality Standard: Particulate Matter; Proposed Rule

(Federal Register, 12/31/02)

National Emission Standards for Hazardous Air Pollutants: Stationary Combustion Turbines, Surface Coating of Metal Cans, and Primary Magnesium Refining

(Federal Register, 01/02/03)

ACTION: Proposed Rule; Notice of Tentative Determination on Pennsylvania's Application for Approval of its Underground Storage Tank Program, Public Hearing and Public Comment Period

(Federal Register, 01/03/03)

KEY HIGHLIGHTS

FEDERAL UPDATES

- TCE Vapor Risk Reevaluation - Pg. 4
- Biosolids Risk Update - Pg. 4
- EPA NSR Reforms - Pg. 5
- EPA Brownfields Liability - Pg. 5
- Utility Plant Air Rules - Pg. 6

GLOBAL WARMING WATCH

- Arctic Ice Vanishing - Pg. 6
- Biting Cold Winters - Pg. 6

PA UPDATES

- Waste Harms/Benefits Analysis - Pg. 8
- Vapor Intrusion Act 2 Guidance - Pg. 9
- Water Resources Bill - Pg.9

NJ REGULATORY UPDATES

- DEP Brownfields Directive - Pg. 11
- Stormwater Controls - Pg. 12

TECHNOLOGY UPDATES

- Diesel Engines - Global Warming Answer? - Pg. 13
- World Water Crisis - Pg. 14
- Road-work Pollution Prevention - Pg. 15
- Reversing Lead Damage - Pg. 16
- Perchlorate Contamination -Pg. 17

RT E-MAIL DIRECTORY

LARRY BILY	LBILY@RTENV.COM
TOM BRADY	TBRADY@RTENVNJ.COM
GARY BROWN	GBROWN@RTENV.COM
CHRIS EYRE	CEYRE@RTENVNJ.COM
CRAIG HOPKINS	CHOPKINS@RTENVNJ.COM
PAUL FREDERICK	PFREDERICK@RTENV.COM
WALTER HUNGARTER	WHUNGARTER@RTENV.COM

PETER MALIK	PMALIK@RTENV.COM
CHRIS ORZECZOWSKI	CORZECZOWSKI@RTENV.COM
VALERIE POWERS	VPOWERS@RTENV.COM
JADE SIMMERS	RTRDG@AOL.COM

**VISIT OUR WEBSITE
WWW. RTENV.COM**

IN THIS ISSUE

Page 1
FINAL PA SAFE FILL REGS

Page 1
GOODBYE TO PERC

Page 3
**UST MTBE VAPOR RELEASE
A NATIONAL ISSUE**

Page 3
**MOLD & INSURANCE
COVERAGE DENIALS**

Page 4
**EPA REEVALUATING TCE VAPOR
CANCER RISK**

Page 7
PA LAND RECYCLING - 7 COMPLETIONS!

Page 12
NJDEP STORMWATER CONTROLS

Page 13
**DIESEL ENGINES - ANSWER TO
GLOBAL WARMING CONCERNS?**

RT Environmental Services, Inc.
215 West Church Road
King of Prussia, Pennsylvania 19406

PRSRST STD
U.S.Postage
PAID
Permit #159
Lehigh Valley, PA

