

Spring 2007
Issue

Don't forget
to mark your
calendar for
these
upcoming
events:

**GA Chapter
Event**

2007 Regulatory
Update
Conference at the
Sam Nunn Federal
Center Building in
Atlanta, GA on
April 26th, 2007

**Southern
Section Event**

2007 A&WMA
Annual Meeting
and Technical
Conference at St.
Simon's Island,
GA on August 7-
10, 2007

**AWMA
International
Event**

100th Annual
Conference &
Exhibition in
Pittsburgh, PA on
June 26-29, 2007

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AIR & WASTE MANAGEMENT
A S S O C I A T I O N

Georgia Chapter
Southern Section

News for People with Environmental Vision

**NSR Reform: Continued Efforts to Clarify,
Streamline Controversial Rules**

Margaret Claiborne Campbell & Mack McGuffey (Troutman Sanders LLP)

On September 14, 2006 EPA issued yet another proposed rule to help clarify the application of the complex and controversial New Source Review ("NSR") rules to existing sources. 71 Federal Register 54,235 (2006). In this, EPA's fourth NSR reform rule, EPA seeks to clarify the rules governing "debottlenecking" an existing emissions units, aggregation of multiple activities at an existing plant, and "project netting." EPA held a public hearing on the proposal on November 6 and written comments were due by November 13, 2006.

Background on NSR Reform

Even though the NSR regulations have been on the books for over twenty years, the rules can only be interpreted with reference to volumes upon volumes of EPA guidance documents. In the early 1990s, under the Clinton Administration, EPA initiated an NSR reform effort but those efforts were eventually overshadowed in the mid-to-late-1990s by EPA's controversial nationwide NSR enforcement

initiatives against numerous industries, including wood products, petroleum, and electric utilities. At issue in the enforcement initiatives was the applicability of the NSR rules to existing sources, the very focus of the reform effort. The enforcement initiatives and resulting litigation further fueled the calls for regulatory reform.

The Bush Administration quickly picked up the Clinton Administration reforms, finalized some, and introduced a number of others. The first final NSR reform regulations were issued in 2002, survived subsequent legal challenges, and have now been implemented to varying degrees in many states, including Georgia. The Georgia Environmental Protection Division (EPD) adopted its own version of the 2002 reform rules earlier in 2006.

In 2003, EPA finalized a second set of reforms, known collectively as the Equipment Replacement Provision (ERP). The ERP was

designed to clarify the exclusion of "routine maintenance, repair and replacement" activities from NSR by establishing a bright line test for component replacements at existing units. The ERP, however, did not survive the subsequent legal challenges. Thus, the scope of the "routine maintenance, repair and replacement" exclusion may have to be resolved in the context of the NSR enforcement actions still pending across the country. Finally, in 2005, EPA proposed to clarify the formula for calculating emissions from existing electric utility units for NSR applicability purposes. That rulemaking is still pending.

**Latest Reforms:
Debottlenecking,
Aggregation & Netting**

For an existing source, NSR is only triggered if a proposed project will result in an emissions increase.

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VAPOR INTRUSION

What's all this talk about potential intrusion risk?

Russell C. Griebel, P.G., R.B.P. (United Consulting)

"...the EPA has determined that an average adult can consume 10 ppb of benzene or PCE per day without a significant risk for developing adverse health effects."

What is vapor intrusion? Is this really a concern? What are the risks? With more and more development on and around chemically impacted sites, these are very common questions in the development industry today. Today, development of such impacted properties is often influenced by the lack of the availability of "clean" properties and incentives offered through site development under Federal and State Brownfields processes. Developments at such properties are often permitted to leave some soil and/or groundwater chemical impacts on a site, which could result in the potential accumulation of hazardous vapors.

So what is vapor intrusion?

United States Environmental Protection Agency (EPA) has described vapor intrusion as the "migration of volatile chemicals from the subsurface into overlying buildings". Volatile chemicals in the soil and groundwater can volatilize and migrate upward through the soils that underlie buildings (or proposed buildings), penetrate the building foundations/slabs, and accumulate inside the building to concentrations that may be harmful to human health and the environment.

Common volatile constituents with sufficient volatility¹ and toxicity² to be potential concerns include some volatile organic compounds (VOCs) (such as dry cleaning solvents and petroleum compounds), mercury, polychlorinated biphenyls (PCBs), and certain semi-volatile organic compounds (SVOCs). The EPA has identified 107 compounds meeting these criteria.

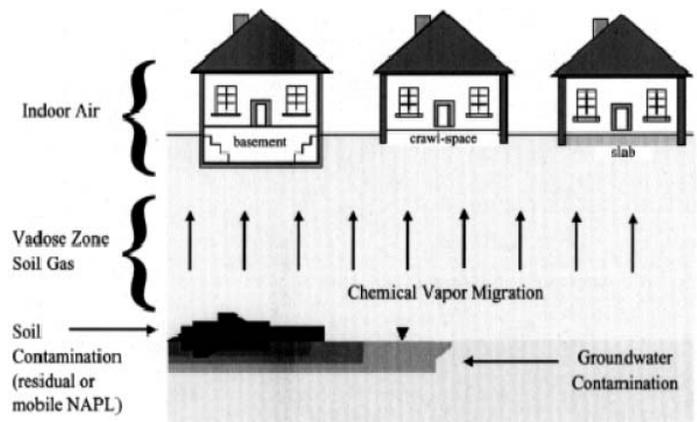
Is this really a concern?

Consider this: The average adult consumes approximately 2 liters of water per day. Based on this calculated water consumption, the EPA has set the maximum contaminant level (MCL) for benzene (a primary component of gasoline) and tetrachloroethene or PCE (the chemical often used in dry cleaning) at 5 micrograms per liter (ug/L). With this, the EPA has determined that an

average adult can consume 10 ppb of benzene or PCE per day without a significant risk for developing adverse health effects.

Now relate this water consumption rate to the amount of air breathed by the average adult per day, which is about 20,000 liters per day. At this consumption rate, it would only take an initial air concentration of benzene or PCE of about 0.0005 ug/L to be exposed to 10 ug/L per day. Although these concentrations cannot be directly cross-referenced to risk, clearly, it can be seen that it only takes a minor amount of vapors in the air, to equate to a significant inhalation exposure throughout a 24-hour period.

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¹ A chemical is considered sufficiently volatile if its Henry's law constant is 1×10^{-5} atm-m³/mol or greater.

² A chemical is considered sufficiently toxic if the vapor concentration of the pure component poses an incremental lifetime cancer risk greater than one in a million (10^{-6}) or a non-cancer hazard index greater than 1.

Association County Commissioners of Georgia – Natural Resources and Environmental Policy Platform for 2007

By Todd Edwards (ACCG)

The Association of County Commissioners of Georgia (ACCG) is a nonprofit instrumentality of Georgia's county governments. Formed in 1914 with 19 charter county members, today ACCG serves as the consensus building, training, and legislative organization for all 159 county governments in the state. Georgia's county governments constitute the direct membership of ACCG. This encompasses 159 counties represented by more than 810 commissioners. The association's constituency also includes 400 appointed county clerks, managers, administrators, and attorneys and more than 30,000 full-time and part-time employees. ACCG has six standing policy committees of which "Natural Resources and Environment" is one of the committees.

Conserving and enhancing Georgia's environment and the responsible development of Georgia's natural resources are issues of utmost concern both to county commissioners and to the communities they serve. As Georgia's environment and natural resources are not limited by governmental boundaries, comprehensive planning, resource conservation measures and adequate funding are

essential and integral ingredients for accomplishing environmental management goals.

The ACCG's 2007 Policy Platform covers water, land (solid waste), air, financing, and other issues. ACCG's entire 2007 policy platform can be found at www.accg.org. As part of their Solid Waste Management platform, ACCG strongly urges proper management of solid waste, including the implementation of incentive-based programs to achieve a significant reduction in Georgia's solid waste stream. ACCG:

- Supports the strengthening of laws and regulations to empower local government officials to require that the siting and permitting of new solid waste handling facilities, including transfer stations, be consistent with the provisions identified in their approved solid waste management plans, and other local ordinances and the demonstrated need for additional facilities;
- Urges that a demonstration of need

procedure be established and implemented by the EPD before any new solid waste management handling permits are issued;

- Strongly encourages counties to review their existing solid waste management plans and amend them, if necessary, for clarity and certainty to ensure that counties exercise more control over landfill sitings, the handling of storm debris, permit-by-rule facilities and other solid waste issued in their communities.
- Opposes legislation restricting what factors counties are permitted to consider in determining whether a proposed solid waste facility is consistent with a local solid waste management plan;
- Opposes legislation that would again allow yard trimmings to be deposited in a municipal solid waste landfills;
- Encourages state and federal agencies to provide technical support and financial

Formed on 1914 with 19 charter county members, today ACCG serves as the consensus building, training, and legislative organization for all 159 county governments in the state.

We're on the Web!

See us at:

www.gaawma.org

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resources to counties implementing waste reduction and recycling programs;

- Encourages local, state and federal governments and agencies to purchase materials made from recycled content material when economically feasible;
- Urges state and federal agencies to monitor new and innovative solid waste management technologies and keep counties informed about the economic and environmental viability of these new technologies;
- Urges the Board of Natural Resources/EPD to provide more stringent regulatory oversight for recovered materials processing facilities and solid waste transfer stations through regulation, permit requirements and requiring compliance with local rules, regulations, plans and ordinances; and

- Urges the EPD to provide more stringent inspection of inert waste landfills.

As part of their Air Quality Control Platform, ACCG acknowledges the existence of the 8-hour ozone and fine particulate matter nonattainment areas in the state. To better ensure cleaner, healthier air and to comply with federal and state clean air standards, ACCG:

- Supports regional multi-modal transportation solutions where appropriate;
- Encourages public education efforts such as those of the Clean Air Campaign and Commute Connections;
- Supports public and private partnerships that result in improved access to alternative fuel infrastructure;
- Encourages local governments to use clean fuel, alternative energy, and low emission

vehicles, subject to infrastructure and budgetary constraints.

- Urges the EPD to utilize more speciation monitors throughout the state to measure levels of air pollutants and to more effectively determine the composition of pollutants;
- Promotes the cooperation of local governments with the EPA and the EPD in monitoring and management of data collection via speciation monitors in an effort to assist in solving air quality issues and incidents at the local level. □

“Conserving and enhancing Georgia’s environment and the responsible development of Georgia’s natural resources are issues of utmost concern both to county commissioners and to the communities they serve.”



O.D. Netter, President ACCG (left) and Jerry Griffin, Exec Dir. (right)

Get Involved...

We're accepting articles for future newsletters. Please send them to Susan Jenkins at susan_jenkins@dnr.state.ga.us

Our committees are always looking for volunteers. Contact any board member about joining us.

NSR Reform: Continued Efforts continued from page 1

The proper method for calculating emissions increases, however, has remained a contentious issue. In its latest NSR reform effort, EPA has proposed to address three issues related to the calculation of emissions increases – “debottlenecking,” “aggregation,” and “project netting.”

Proposed Rules for Debottlenecking Projects

“Debottlenecking” refers to projects that eliminate a constraint on a process line or set of emission units such that other, unchanged emission units can achieve their full capacity and/or production. According to EPA, the Agency has historically presumed that any increased emissions from upstream or downstream units would be caused by the debottlenecking project and thus had to be included in determining NSR applicability to the project. The statute and the regulations, however, clearly contemplate that only those emissions actually caused by a project should be included in an NSR applicability determination. EPA is proposing to revise the rules to make clear that debottlenecking projects are subject to the same causation requirement as any other project under the rules; that is, only those emissions caused by the project should be included for NSR applicability purposes. EPA proposes three possible tests for causation: (1) a “legal causation” test based on whether the new emissions from the debottlenecked unit will exceed existing permit limits, (2) a “physical causation” test based on whether the debottlenecked unit was physically incapable of operating at the new higher levels without the project, and (3) an “economic causation” test based on whether the debottlenecked unit was incapable of operating *economically* at the new higher levels without the project. EPA prefers the “legal causation” test, but seeks comment on all three approaches.

Proposed Rules for Aggregation of Projects

Second, EPA proposes to adopt regulations to determine when multiple activities must be grouped together, or “aggregated,” into one project for NSR applicability purposes, specifically for calculating emissions increases. EPA notes that the Clean Air Act and regulations do not directly address this issue, and EPA has only addressed it in the context of various after-the-fact determinations, most of which focus on NSR circumvention. However, according to EPA, the proposal is a clarification and codification of its existing policy. The proposed rule would require aggregation of multiple activities into one project when those activities are “technically dependent,” “economically dependent,” or both. Technical dependence, according to EPA’s

proposal, means that one project is incapable of operating in the absence of another project. Economic dependence, on the other hand, refers to whether a project is capable of achieving the same financial returns in the absence of another project. EPA seeks comment on whether each of these measures should be used to determine whether two projects should be aggregated into one.

Project Netting vs. Contemporaneous Netting

Finally, EPA proposes to allow “project netting” for “projects that involve both increases and decreases in to emissions.” Until EPA’s recent proposal, “netting” generally referred to the counting of all “contemporaneous” increases and decreases from other projects source-wide over the past five years. This “contemporaneous netting” could be used to “net out” of NSR if a proposed project, by itself, was expected result in an emissions increase. In its proposal, EPA distinguishes “project netting” from “contemporaneous netting” -- whereas contemporaneous netting takes into account all emissions increases and decreases from *multiple projects*, “project netting,” according to EPA, refers to counting both increases and decreases at different emission units that are caused by a *single project*. Even though the current rules could potentially be interpreted in a way that already allows “project netting,” EPA’s proposed rule claims its current policy does not allow sources to count decreases resulting from a single project unless the source engages in “contemporaneous netting,” which requires compliance with certain additional restrictions. EPA’s proposed rule purports to authorize project netting by allowing sources to count decreases resulting from a project without having to count all contemporaneous increases and decreases over the previous five years as well. However, EPA also places various restrictions on “project netting” that mirror the restrictions currently in place for “contemporaneous netting,” including a requirement that any decreases must be practically enforceable.

Many of these “reforms” are simply intended to resolve ambiguities in the current regulations or to make the rules more consistent with existing policy. Nonetheless, like the previous reforms, once finalized they will likely be subject to legal challenges. While the full implication of these reforms remains to be seen, these proposed rules generally represent another step in the right direction towards clarifying the complicated NSR program. □

2007 Southern Section A&WMA Conference Call for Speakers

The Southern Section Air & Waste Management Association (A&WMA) annual conference, hosted by the Georgia Chapter A&WMA, will be held August 7-10, 2007 at the Sea Palms Resort and Conference Center located at St. Simons Island, Georgia. This conference typically attracts over 200 attendees from all over the southeast. The theme for our main morning session on August 8 will be **“Maintaining Compliance-Proven Programs that Work and Practical Tools.”** Technical sessions include case studies, regulatory updates, new developments and practical experiences in the following areas:

Main Morning Sessions Topics

- Case studies/ success stories on compliance programs and practical tools
- Pollution prevention programs
- Environmental improvement/ success stories
- Auditing programs
- Information management

General Air/ Waste/ Water

- Waste management and remediation
- Air pollution control/ air quality
- Water issues, SPCC, storm water

- Redevelopment/ Brownfields
- Waste minimization and resource conservation
- Environmental due diligence
- Environmental management systems
- Renewable/ green energy

Special Topic- Public Relations

- Public Hearings
- Hazard communication
- Communications related to emergencies □

For more information see www.gaawma.org

Presentation summaries can be sent by e-mail, fax, or mail to:

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Recap of the 22nd Annual International Conference on Soils, Sediments and Water

“Analysis, Site Assessment, Fate and Transport, Environmental and Human Risk Assessment, Remediation and Regulation”

The University of Massachusetts Amherst in Amherst, MA hosted their annual conference October 16-19, 2006.

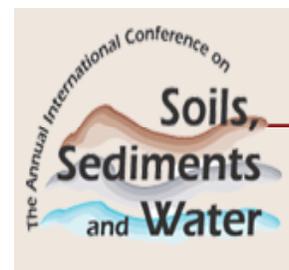
The four-day conference started with a day session about “Getting to Closure at Gasoline Light non-aqueous phase liquids (LNAPL) Sites”. Regulators and consultants representing various agencies and firms were present for this session

Gary Beckett of Aqui-Ver, Inc. discussed various analytical tools that allow the environmental community to better understand the behavior of LNAPL, migration, modeling, and realistic recoverability by hydraulic methods.

Attendees were allowed to interpret two case studies, utilize their field knowledge and participate in the API Interactive Guide. The Guide

surpasses current software models capable of handling heterogeneous situations, migration of specific BTEX, PAH constituents and predicting the likelihood of recoverability of popular remediation techniques.

For more information about this product, visit <http://www.aquiver.com>



Vapor Intrusion continued from page 2

Vapor Intrusion has become a major concern to both the EPA and state agencies as corrective action criteria have moved from cleanup standards of background concentrations to low contamination concentrations allowed to remain on sites. The first guidance document developed by the EPA for vapor intrusion assessment was *Assessing Potential Indoor Impacts for Superfund Sites* in 1992. In the mid 90s, both the American Society for Testing and Materials (ASTM) and the EPA issued additional guides for vapor assessment including the *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites* (1994) and *Soil Screening Guidance: Users Guide* (July 1996).

When vapor intrusion was first evaluated using the above means in the 1990s, the EPA determined that it was not a concern if the chemical impacts were greater than 15 feet from a building. However, in early 2000, a chlorinated VOC plume in Colorado resulted in residential vapor intrusion even though the early EPA model predicted little or no contamination. Since then, the EPA has made modifications to the evaluation recommendation/protocols. This included the development of the *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway* (December 2001), which has been superseded by the *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)*, 67 Federal Regulation 71,169, (November 29, 2002).

The EPA has reportedly indicated that the draft Subsurface Vapor Intrusion Guidance may be finalized late 2006. This guidance recommends assessing the potential for vapor intrusion based on a tiered approach. Generally, if chemical impacts are present with sufficient volatility and toxicity to be potential concerns and the impacts are within 100 feet of an existing or proposed building, additional assessment is needed.

What are the risks?

The presence of these volatile and toxic

vapors in buildings was not previously anticipated, and was thus not part of investigations until recently. The risks present include the risk for intrusion itself (whether there is a complete or incomplete pathway) and the risk for potential adverse health effects associated with such intrusion. The presence of these risks present potential liability to persons such as property owners, building owners and lessees. These risks should be evaluated by these individuals with the assistance of consultants and attorneys. Several computational models have been developed to quantify these risks. Once the risks have been assessed, an appropriate business decision can follow.

Should this stop development?

Vapor intrusion concerns can be assessed and if potential completed vapor pathways are identified along with an exceedence of acceptable risk, mitigation can be implemented. Vapor intrusion can commonly be effectively mitigated with the installation and operation of a single or combined mitigation system. The type of effective mitigation system can vary depending on numerous site conditions including the stage of the development, whether buildings are existing or proposed, subsurface geology, and the magnitude of the chemical impacts present.

If chemical impact concentrations are low to moderate, passive systems are often sufficient for vapor mitigation. In limited situations, passive systems could simply include increasing a buildings indoor air exchange rate by opening doors and windows or installing a fan to blow air in and/or out of a building. Other passive systems include gravel collection layers with discharge piping. Passive systems seem to be the most common types of systems installed, with the majority of sites having low to moderate impact concentrations. Costs for such systems are nominal compared to overall development costs, with some passive systems costs being in the

range of \$2 to \$5 per square foot (for ground floors only).

If higher chemical concentrations are present, or site conditions limit passive systems, an active mitigation system may be required. Active systems can be very complex and could include physical excavation of impacted media and/or the installation of a soil gas extraction system. Although these systems can be considerably more expensive than passive systems, for large developments, these costs may remain nominal for the overall project.

Conclusion

Vapor intrusion assessment is an evolving science. Significant assessment and case studies have not yet been completed, which makes the evaluation more difficult. As time moves forward, expect significant debate over this issue. The EPA reportedly plans to finalize its draft Subsurface Vapor Intrusion Guidance late in 2006. Some States already have their own guidance and expect remaining states to develop their own guidance documents in years to come.

The potential for indoor vapor intrusion at or adjacent to chemically impacted sites is real. Developers should be aware of this potential and be prepared to assess the risks associated with such intrusion. If an intrusion pathway is complete and the applicable risk level is exceeded, then an effective mitigation system should be designed, installed, and operated. The costs for such systems are economical and should not deter the development of such impacted sites.

References:

- The Interstate Technology & Regulatory Council Brownfields Team, "Vapor Intrusion Issues at Brownfield Sites," December 2003.
 - Environmental Quality Management, Inc., "User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings," February 2004.
 - "Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)," 67 Federal Regulation 71,169, November 29, 2002.
- <http://www.epa.gov/correctiveaction/eis/vapor.htm>

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