

**USGBC TSAC PVC Draft Report dated December 17, 2004 (released 12/22/04)
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Submit to tsac@committees.usgbc.org, any time before midnight on February 15, 2005.

Comments submitted by:

First Name	Last Name	Title	Organization	Phone	E-mail	Web site URL
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Personal Background

I received my Ph.D. in biological sciences from the University of Michigan where I specialized in community ecology, or, more specifically, on the cycling of matter—including persistent organic pollutants—through ecosystem trophic levels. My post-doctoral work at Harvard-Radcliffe University of Illinois, Chicago, and Cornell has focused on the public health effects of chemical contamination in air, food, and water. I am the author of *Living Downstream: An Ecologist Looks at Cancer and the Environment* (1997), the first book to bring together cancer registry data with data on toxic releases made available through community right-to-know laws. In 2001, I published a book on fetal toxicology, *Having Faith: an Ecologist’s Journey to Motherhood*, which received the Rachel Carson Leadership Award. Both of these books look closely at the health and environmental impacts of PVC.

I have served on the board of the National Breast Cancer Coalition and, in 1994, was appointed to President Clinton’s National Action Plan on Breast Cancer, where I served on the chemicals and hormones subcommittee of the breast cancer etiology working group. In 1998, I co-chaired with Susan Haynes in the Office on Women’s Health, a national conference on cancer clusters. In 1999, I briefed United Nations delegates on dioxin contamination of human milk. In 2004, I addressed the European Parliament on the topic of persistent organic pollutants and children’s health. I am currently on the faculty at Ithaca College where I am researching environmental influences on both pediatric and geriatric health.

Last spring, as a consultant to Healthy Building Network, I submitted many dozens of papers and documents to the TSAC PVC Task Group in response to its November 2003 solicitation for data.

General Comments

[note: citations are provided in the line-by-line comments that follow]

The TSAC PVC draft report is neither a comprehensive, objective review of the evidence nor a comprehensive, objective analysis of the environmental and health impacts of PVC. Its methodology, assumptions, criteria for data exclusion or inclusion, standards for judging the quality of data, and interpretation of data are consistently biased in favor of PVC. It is an assessment that, were it used to analyze the basis for a public ban on smoking, could easily exonerate cigarettes.

The prejudice inherent in this draft report manifests itself in at least three ways:

1) **The report excludes crucially important categories of impact, most notably groundwater contamination, risk of catastrophic accident, and threat of terrorism.**

a) *groundwater contamination*: On page 6, the authors list the impact categories that they have chosen to examine. Eutrophication of surface water makes the list—even though this is not a particularly relevant impact category for PVC. Contamination of groundwater does not make the list—even though evidence abounds that this is a significant problem.

Indeed, the various feedstocks of PVC (ethylene dibromide, vinyl acetate, and vinyl chloride) are groundwater leachers. According to the U.S. EPA, “According to estimated K_{oc} values, vinyl chloride will be expected to be highly mobile in soil and it may leak into groundwater.” Indeed, strong evidence indicates that vinyl chloride from PVC facilities has leached into public drinking water supplies. This was evidence that I myself submitted to TSAC—along with other data provided by other stakeholders—but which was excluded from consideration by the authors. In 2003, for example, the *New York Times* ran a front page investigative report on the contamination of the drinking water in Plaquemine and the attendant health problems of community members. (This report was submitted to the TSAC PVC working group last April.) This was not an isolated incident. Three years prior, in August 2000, the EPA announced a \$3.8 million clean-up plan for a vinyl chloride plume in Hicksville, Long Island that emanated from a PVC facility. And yet the TSAC report does not even attempt to consider the economic costs and health risks from these and many another examples of groundwater contamination due to PVC manufacturing.

Ethylene dichloride represents an even bigger threat to groundwater. According to the National Toxicology Program’s *Tenth Report on Carcinogens*, EDC has been detected in surface water, groundwater and drinking water. “Drinking water samples from a number

of urban and rural locations in the United States have been reported to be contaminated with EDC...EDC has also been detected in food items and in human breath, urine, and milk.” The NTP has estimated that 4-5 percent of Americans drink water that contains traces of EDC. This is equivalent to at least 12 million people. Moreover, as groundwater contamination is, for all intents and purposes, permanent, the attendant risks to human health are not confined to the present moment and may affect inhabitants of these communities for generations to come. EDC is classified by the National Toxicology Program as a chemical that is “reasonably anticipated to be a human carcinogen.” Other than PVC manufacture, virtually all other applications for EDC have been phased out. The TSAC report fails to include into its analysis the costs to human health from drinking (as well as eating, inhaling, breastfeeding, and absorbing through skin) a cancer-causing substance whose sole remaining use is the production of PVC.

b) risk of catastrophic accident: The committee made no attempt to assess accidents at PVC plants or during the transport of PVC feedstocks, even though such accidents can be deadly for workers and nearby community members. In the past year alone, one leading PVC facility, Formosa Plastic’s Illiopolis plant, blew up, killing five workers and sending into the night sky a hundred foot fireball. Four Illinois towns were evacuated, several highways closed, a no-fly zone declared, and 300 firefighters from 27 different communities battled the flames for three days. This event made international news. Carolyn Merritt, chairwoman of the U.S. Chemical Safety and Hazard Investigation Board, said this explosion was among the most serious industrial accidents that her agency had ever investigated. And yet there is no investigation of catastrophic accidents within the TSAC analysis. Indeed, the authors made no attempt to include data available to them through the Toxics Release Inventory or in EPA-held databases on chemical accidents. Twenty-one PVC plants currently operate in nine states. A quick glance at the TRI data reveals that, in every case, even in the absence of chemical upsets, PVC plants are among the biggest polluters within the states in which they operate.

Chemical accidents are not confined to PVC facilities. They also occur during transport of PVC feedstocks. But, once again, the TSAC authors do not attempt to quantify this problem or include these risks in their analysis. Here is but one example from the previous year: In September 2004, a derailment at an East St. Louis switching yard caused tankers full of vinyl acetate to rupture and catch fire. (Vinyl acetate is mixed with vinyl chloride to make vinyl flooring.) At least 140 residents were evacuated, many thousands of gallons of vinyl acetate-contaminated firefighting water flowed into storm sewers leading, ultimately, to the Mississippi River.

According to the Argonne National Laboratory, vinyl chloride, vinyl acetate, and ethylene dichloride are among the top 150 most heavily shipped hazardous materials by rail. Indeed, vinyl chloride is number eight on this list (immediately following chlorine gas at number seven). Classified as “ultra-hazardous,” vinyl chloride is no longer allowed to travel by train or truck through the city of Washington D.C. as part of emergency legislation passed by the District’s city council on February 1, 2005.

c) *threat of terrorism.* Stockpiles of chlorine gas at chlor-alkali facilities and stockpiles of vinyl chloride monomer at PVC facilities represent potential weapons of mass destruction. Security at chemical facilities, including PVC plants, is not regulated. In October 2004, the Paper, Allied-Industrial, Chemical & Energy Workers International Union (PACE) announced that fewer than 17 percent of facilities have made changes in the design of their operations that would make chemical processes inherently safer and less vulnerable to terrorist attack. PVC requires the generation of enormous amounts of chlorine gas, and chlorine gas is considered one of the most lethal possible weapons of mass destruction: the U.S. Naval Research Laboratory estimates that one ruptured tanker car in an urban area could kill 100,000 within 30 minutes. And yet, TSAC excludes from its analysis the risks via terrorism to public and environmental health from an unsecured, unregulated industry that traffics in deadly, explosive chemicals. It is unlikely that a train car full of cedar, cement, or aluminum would hold as much interest to a terrorist as a tankerful of chlorine gas or vinyl chloride monomer.

- 2) **The report accepts evidence that is deeply controversial, most notably data from the Louisiana Tumor Registry. The authors' conclusion that there exists no evidence for elevated rates of cancer in Louisiana's industrialized corridor (home to several PVC facilities) rests on a data set that is currently the subject of an ongoing scandal.**

According to Barbara Allen, the director of the science, technology, and society program at Virginia Polytechnic Institute and author of *Uneasy Alchemy: Citizens and Experts in Louisiana's Chemical Corridor*, "the data that the Louisiana Tumor Registry produces is garbage in, garbage out. It's useless." Allen's own research in the Louisiana chemical corridor revealed strong anecdotal evidence for elevated incidences of pediatric cancers.

Allen notes that the state of Louisiana does not release its cancer incidence data by zip code, making impossible the task of ascertaining whether communities near PVC plants suffer elevated risks for cancer. Some researchers strongly suspect that the registry is willfully withholding information and aggregating data in ways that conceal geographic patterns and time trends; at least one scientist has now sued for access to the raw data. Citizen groups have also protested the data collection practices at the registry. The registry's findings have been challenged by a coalition of 70 environmental groups

Questions about the Louisiana Tumor Registry data were raised in a 1999 investigative report published in *The Nation*:

"Six former state Tumor Registry employees and current registrars at local hospitals insist that the way the numbers are collected and combined dramatically conceals the facts. The biggest problem is that the registry divides numbers from various parishes, some industrial, some rural and some mostly uninhabited swamp, among ten regions. What this means, says Williams, is that it's impossible to see what happens close to the most polluted sites. "This is what we need to do to make the

link between pollution and the diseases," she says. Moreover, the six registrars question the registry's accuracy, citing sloppy recording techniques. "

Not only are the TSAC authors apparently unaware of the questionable reputation of the LTR database, they base their interpretation of that data on the contents of an unpublished memo by the CEO of the Mary Bird Perkins Cancer Center, Todd D. Stevens. (See pages 85-86.)

Dr. Barbara Allen interprets the data very differently from Mr. Stevens:

"Everyone is in the dark regarding cancer rates because one questionable agency that holds all the data refuses to make it public or analyze it in a community-relevant way. Given this, I would err on the side of caution and assume there could very well be something to the citizen's claims of cancer clusters in the corridor. I would also advise using data from other nations or places that have more open and honest reporting policies" (letter to S. Steingraber, 2/15/05).

In sum, the TSAC authors' dismissal of fenceline cancer effects is entirely based on an analysis of one state's data set. Given the lack of transparency and level of concern surrounding that particular data set, the task force should validate its analysis by examining cancer registry data from other communities in which PVC plants are located. Given that there are 21 PVC plants currently operating in nine different states and that every state maintains a cancer registry, expanding the analysis should be possible.

3) **The report makes benefit-of-the-doubt assumptions that are unwarranted by the evidence. Most notable is the presumption that PVC plants practice good industrial hygiene.**

On page 31, the authors state, "It is expected that companies strive to put good industrial hygiene practices into place in most, if not all of the industries represented in this report."

Is this a fair assumption for the PVC industry? Had the authors chose to test the assumption, by, for example, examining data from the U.S. Occupational Safety and Health Administration, they may have learned that many PVC facilities have a long history of repeated workplace violations that extend into the present day. In November 2004, for example, OSHA charged Formosa Plastics' Illiopolis facility with 48 federal workplace violations. Among them: failure to repair defective equipment, inadequate inspections of equipment; insufficient training in emergency response, and poor maintenance of fire protection equipment. Indeed failure to secure good industrial hygiene practices throughout the PVC industry has been the focus of several recent investigative reports that include a special PBS report by Bill Moyers, the

HBO documentary film *Blue Vinyl* by Judith Helfand, and the highly acclaimed book *Deceit and Denial: The Deadly Politics of Industrial Pollution* by Gerald Markowitz and David Rosner.

Comments:

Page #	Line #	Comment	Supportive citations
6	1-31	Key areas of concern are not included in the categories of impact. These include threat of groundwater contamination, threat of catastrophic accident, and threat of terrorist attack	US EPA, “Groundwater Technical Fact Sheet,” http://www.epa.gov ; EPA Press Release, “EPA Proposes Cleanup Plan for Groundwater Contamination Problem at Industrial Park in Hicksville, Public Meeting Set,” Aug. 2, 2000, http://www.epa.gov ; National Toxicology Program, “1,2-Dichloroethane (Ethylene Dichloride)

			<p>CAS No. 107-06-2,” <i>Tenth Report on Carcinogens</i>; http://www.ehp.niehs.nih.gov; Illinois Attorney General Lisa Madigan, Press Release, “Madigan: Railroad Most Monitor Site of September Derailment that Ignited Hazardous Chemical,” Oct. 12, 2004, http://www.IllinoisAttorneyGeneral.gov;</p> <p>D.F.Brown et al., <i>A National Risk Assessment for Selected Hazardous Materials Transportation</i> (Argonne, IL: Argonne National Laboratory, Dec. 2000), pp. 229-233; J. Johnson, “New Voices for Plant Security,” <i>Chemical & Engineering News</i> 82 (2004): 51-53; J. Borris, U.S. Naval Research Laboratory, presentation to Washington D.C. Council, Oct. 6, 2003.</p>
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<p>85-87</p> <p>31</p>		<p>The discussion of whether or not communities near PVC facilities experience higher risks of cancer is based on Louisiana data that are considered untrustworthy by many researchers and has been the subject of challenge and protest by a coalition of health and environmental organizations (Louisiana Environmental Action Network).</p> <p>The presumption that PVC plants practice good industrial hygiene may not be warranted by past or recent evidence.</p>	<p>B. Allen, <i>Uneasy Alchemy: Citizens and Experts in Louisiana's Chemical Corridor</i> (Cambridge, MA: MIT Press, 2003); B. Koepfel, "Cancer Alley, Louisiana : a 100-mile stretch is home to numerous industrial sites--and many sick people," <i>The Nation</i>, Nov. 8, 1999.</p> <p>U.S. Dept. of Labor, OSHA Regional News Release, "Illinois Company Penalized \$361,500 for Willful and Serious Workplace Violations, OSHA Inspection Followed Deadly April Explosion," Oct. 22, 2004, http://www.osha.gov.</p>
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