commentletters - Comments of Draft Staff Report and proposed Water Recycling Policy

From: Edo McGowan <edo_mcgowan@hotmail.com>
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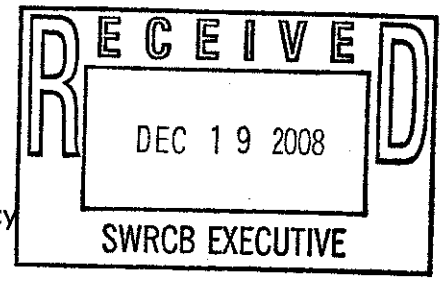
Date: Friday, December 19, 2008 7:25 PM
Subject: Comments of Draft Staff Report and proposed Water Recycling Policy



To: Water Resources Control Board commentletters@waterboards.ca.gov

Fm: Dr Edo McGowan
Re: Comments of Draft Staff Report and proposed Water Recycling Policy

Again, some information showing that the Draft Staff Report may have substantially understated the impact from contaminants contained within recycled water. This should alert the Board that the potential impacts may be significantly adverse, thus pronouncements within the staff report that such issues may be less than significant are badly skewed.

Additionally in discussing this new policy with both Gita and Gorden, I am advised that there is little recourse for the public to have any direct linkage to cause serious discussion and action with respect to contaminants.
AB 1481 originally contained provisions for this---------) Requires the general permit to include a re-opener based on

> regulatory or statutory changes affecting the provisions of the permit or where there is substantial evidence of the presence of contaminants in recycled water that pose a threat to water quality or beneficial uses.

This language was gutted from the bill. The analysis of the bill noted

> Contaminants . A second issue goes to the potential need for a re-opener in a general permit based on new information, including new information related to contaminants that are
>
> not recognized as regulated pollutants, but for which there may still be a concern regarding threats to water quality, such as historically existed for MTBE and the degrading of state waters prior to the development of regulatory levels controlling its release. The amendments provide some assurance that the presence of such contaminants do not have to await the development of regulatory levels if these are found in recycled waters used for landscape purposes, and instead allow consideration of the these issues through a re-opened general permit.

Where, within the new policy is a similar caveat found? I think that there may be nothing within

the new policy that would duplicate this function for citizens to affect the quality of the water that they may be forced by law to use. Thus where is it that your board is to comply with the provisions of Water Code 13521 and 22 as well as health and Safety Code 5410, et seq as well as H&SC 5411? I have attempted to get an answer on the above without success, but it appears the the public has no standing in this.

Document title

Survey of levels of phthalate ester plasticizers in a sewage lagoon effluent and a receiving stream

Author(s)

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Abstract

In this study, samples from a sewage treatment lagoon and those from a receiving stream were analyzed for their phthalate esters content. Knowledge of the distribution of ubiquitous phthalate esters in the sewage lagoon and the receiving stream was necessary because of the reports of their subtle toxicity to aquatic biota and humans. Liquid-liquid extraction, Clean-up experiment and High Performance Liquid Chromatography (HPLC) were the methods employed for the quantitative determination of the Phthalates. A study of uncontaminated water was done to establish blank levels. The sewage lagoon and the receiving stream were grossly polluted as several phthalate ester plasticizers: DMP, DEP, DPhP, DBP, DEHP, DOP and DINP were found present at monthly mean levels of between 24.02 mg/L and 139.25 mg/L in the sewage treatment lagoon and 10.41 mg/L and 80.53 mg/L in the receiving stream. The results showed higher levels of phthalate esters in the sewage lagoon compared to the receiving stream. The sewage lagoon was identified as a pollution point source into the receiving stream. Levels of phthalates obtained from the receiving stream are much higher than the water criteria of 3 g/L phthalates recommended by the United States Environmental Protection Agency (USEPA) for the protection of fish and other aquatic life in water and the Suggested No-Adverse Effect Levels (SNAEL) of 7.5-38.5 g/L for drinking water. This should give cause for great environmental concern. Peoples' health downstream is at stake and so is the 'health' of the ecosystem.

Panel: EPA Must Consider Effects of Chemical Barrage

Thursday 18 December 2008

by: Liz Szabo, USA Today

Phthalates, which are linked to kidney, liver and reproductive system damage, are widely used to make everyday consumer and hospital products. (Photo: worldchanging)

Chemicals that interfere with the male hormone system are so common - and so potentially damaging - that the government should stop studying them one by one and consider their combined effect, an expert panel said Thursday.

Phthalates and other hormone-disrupting chemicals pollute the air, water and dust and are found in hundreds of consumer products - including bug spray, perfume, pesticides, shower curtains, food containers, and plastic toys, according to a report released today from the National Research Council, which advises the government on science policy.

Studies from the Centers for Disease Control and Prevention and independent scientists have found phthalates in virtually everyone, including pregnant women and babies.

Also see below:

EPA Must Overhaul Risk Assessments to Protect Public Health, Panel Says

The Environmental Protection Agency typically studies the impact of these and other chemicals

individually. But that approach may underestimate the effect of being exposed to many different chemicals with similar effects, says the University of Rochester School of Medicine and Dentistry's Deborah Cory-Slechta, chairwoman of the committee that wrote the report.

The best way to protect people - especially infants and fetuses, whose reproductive systems are still developing - is to measure the cumulative impact of this hormonal barrage, Cory-Slechta says. In fact, she says that the EPA should always consider cumulative effects - not just for hormone disruptors, but for all potential toxins.

That will allow the EPA to figure out the maximum level to which humans can safely be exposed and create regulations to protect Americans from exposures that could be harmful, says Sarah Janssen of the National Resources Defense Council, an environmental group. Janssen says she hopes that other government agencies - such as the Food and Drug Administration and the Consumer Product Safety Commission - will also consider the cumulative effect of hormone disruptors in food additives, medical equipment, toys and other products.

"We're exposed to a complex soup of chemicals," Janssen says. "It's a warning we can't ignore."

There's enough evidence to start that assessment right away, instead of waiting until additional studies are finished, Cory-Slechta says.

Although the report focused primarily on phthalates, Cory-Slechta note that other products, such as pesticides used in food, also lower testosterone levels.

Animal and human studies link all of these chemicals to a wide spectrum of problems, from reduced sperm counts to genital malformations. Scientists are also studying the chemicals' link to testicular cancer and other problems, the report says.

Although most of the research has been done in animals, there's no reason to think that the substances wouldn't affect humans the same way, says report co-author Paul Foster, of the National Institute of Environmental Health Sciences.

But the American Chemistry Council, an industry group, says that considering the risks of so many chemicals that affect male hormones would be "remarkably ambitious" - and maybe impossible.

"This essentially could result in a study without limits, financially or otherwise," says the council's Chris Bryant in a statement.

Lawmakers and business around the world already have taken steps to limit phthalate exposure.

The European Union has restricted phthalates in cosmetics and children's toys. A growing number of hospitals are phasing out phthalates in neonatal intensive care units, hoping to protect premature and sickly newborn boys.

Congress last summer passed a ban banning several phthalates in children's products. The Consumer Product Safety Commission has said that it will allow stores to continue selling toys made with phthalates, as long as they were manufactured before the law takes effect Feb. 10th.

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EPA Must Overhaul Risk Assessments to Protect Public Health, Panel Says

Wednesday 03 December 2008

by: Marla Cone, Environmental Health News

Warning that "decision-making gridlock" has bogged down efforts to protect public health, a national panel of scientists recommends that the US Environmental Protection Agency overhaul its strategy for analyzing the hazards of toxic chemicals and pollutants. Experts say their recommendations will make risk reports "more coherent, consistent and transparent."

Risk assessment is the scientific tool that policymakers use to guide their decisions about how and when to regulate chemicals in air, water, food and consumer products. But the assessments, often decades-long and cumbersome, fail to provide the answers that policymakers need to make their decisions, according to a panel of experts convened by the National Academy of Sciences.

The reforms proposed by the committee would be the first major overhaul of the federal agency's framework for analyzing environmental risks in 25 years. Policy experts, environmentalists and others have complained for years that the EPA has been stricken with "paralysis by analysis."

"Risk assessment is at a crossroads, and its credibility is being challenged," wrote the National Research Council panel, which was chaired by Thomas Burke, an associate dean and professor of health policy at the Johns Hopkins Bloomberg School of Public Health in Baltimore.

Noting that the EPA's risk reports are "subject to considerable scientific, political and public scrutiny," the scientists recommended a series of changes at EPA that they described as "more coherent, consistent and transparent."

"Global impacts are combining with the high financial and political stakes of risk management to place an unprecedented pressure on risk assessors in EPA. But risk assessment remains essential to the agency's mission to ensure protection of public health and the environment. Much work is needed to improve the scientific status, utility, and public credibility of risk assessment," the 15 scientists wrote in their report, entitled "Science and Decisions."

The problems, they said, include "long delays in completing complex risk assessments, some of which take decades to complete; lack of data, which leads to important uncertainty in risk assessments; and the need for risk assessment of many unevaluated chemicals in the marketplace and emerging agents."

The committee was convened at the request of the EPA in an effort to update its strategy, which was modeled after a 1983 National Research Council report, dubbed "the Red Book." The experts spent 18 months reviewing EPA's risk assessments and nearly a year preparing the 382-page report.

Top officials from EPA's National Center for Environmental Assessment were briefed Tuesday on the committee's findings, and observers said they seemed supportive of the recommendations.

EPA spokeswoman Suzanne Ackerman said the agency welcomed the report "because of our commitment to providing the best possible risk assessments to protect human health." Agency officials had no specific comments about the recommendations, but Ackerman said they will review them and then develop a plan for implementing them. The new approach would require a major transformation at the EPA, as well as substantial commitments by the President and Congress, the panel reported.

The federal agency, according to the committee's report, "is struggling to keep up with demands for hazard and dose-response information but is challenged by a lack of resources, including funding and trained staff."

Decades-Long Analysis

Lacking clear and timely risk reports from scientists, policymakers cannot readily write rules necessary to protect the public and ecosystems from hazardous chemicals and contaminants. "The regulatory risk assessment process is bogged down; major risk assessments for some chemicals take more than 10 years," the scientists wrote in their report.

For example, in the case of trichloroethylene, a cancer-causing solvent contaminating many water supplies, the EPA has been assessing its dangers since the 1980s. Analyses of dioxin and formaldehyde also have lasted for several decades.

For other chemicals, including perchlorate and arsenic, two contaminants in water supplies, the EPA's risk conclusions have been disputed and interpreted in many different ways, leading to controversial regulatory decisions.

Dr. Richard Jackson, a pediatrician and chair of environmental health sciences at UCLA's School of Public Health, said he is troubled that "the immensity of new science has swamped our ability to interpret it all and turn it into sensible and health protective policy." The existing system, he said, "is just not working and is not protective, especially for children."

Carl Cranor, a philosophy professor at University of California, Riverside who specializes in toxic substances policy, agreed, saying that the new report contains many good recommendations.

"They correctly recognize that risk assessments have been bogged down for a long time and that is certainly true," Cranor said. "Dioxin is notorious."

Many experts say that the strong influence of industry groups has hampered the EPA's process of judging the dangers of chemicals that may be harming human health and ecosystems.

"There's every incentive to complicate the risks assessment, to make it as detailed, as data-heavy and as data-obscured as possible, because that just delays doing anything about the product that may be causing harm," Cranor said.

"There are legitimate differences in scientific judgment. And then there's contamination by people who have no interest in figuring out things correctly and are arguing for a political outcome," he added.

More Focused Assessments

The committee concluded that "a number of improvements are needed to streamline EPA's risk-

assessment process to ensure that risk assessments make better use of appropriate science and are more relevant to decision-making."

One key change, the scientists said, is that the EPA should alter how it designs its assessments so that they are "more closely tied to the questions" that policymakers want answered.

Under the current strategy, the EPA calculates the probability that a certain chemical is hurting people or wildlife. Instead, the committee said, the agency should address what options are available to reduce hazards or exposures and then figure out what information they can provide to help regulators analyze the merits of those options.

Lauren Zeise, a member of the National Research Council committee, said this upfront planning is critical to stopping risk reports from getting bogged down in details that may not even be helpful to policymakers.

"You've got to think about what kind of decision will be made with these risk assessments. You want to match the assessment to the question you are trying to answer," said Zeise, who is chief of reproductive and cancer hazard assessment at the California's Office of Environmental Health Hazard Assessment but was speaking only as a member of the national committee. "Making this an explicit exercise frames the degree of the analysis and the complexity and what questions should be asked."

The scientists proposed bringing regulators, scientists and stakeholders together before the assessment begins to set a deadline and determine what key questions need to be addressed. They warned, however, that they are "mindful of concerns about political interference in the process" and that it is imperative that risk assessments "not be inappropriately influenced" by regulators and others.

"This needs to be a formal process, open and transparent, with clear deadlines," Zeise said.

Another key recommendation is that EPA set a clear standard that requires strong evidence whenever the agency decides to disregard common scientific assumptions. Under the committee's proposal, the EPA could cast aside these so-called "defaults," or assumptions, only when the alternative is "clearly superior." This, for instance, would mean that the EPA would have to consider animal cancer data relevant to humans unless there was new scientific evidence for a chemical that clearly outweighed that long-held assumption.

"We thought the EPA's approach was unclear and we raised some concerns about it. What we're suggesting is that they develop an evidentiary standard. Assessments can get bogged down quite a bit because of this whole issue of defaults," Zeise said.

In the report, one unidentified scientist on the committee criticized a new EPA policy that allows the agency to ignore sound scientific inferences whenever new data questions them. The scientist called it a "definitive and troubling shift" that can lead to "the paralysis of having to re-examine generic information with every new risk assessment."

The agency also needs a consistent approach to handle scientific uncertainties and to ensure that the differences between individuals, such as infants or pregnant women, are considered, the panel reported. Many U.S. policymakers, in the absence of certainty, decide against regulating some substances. The panel said while uncertainty cannot be eliminated, it can be better communicated to regulators.

Cranor said he is most enthusiastic about the recommendations to focus on how people's individual risks vary. He said it is "very important" for the EPA to gauge the dangers that chemicals, such as perchlorate, pose to children, who have a bigger body burden of contaminants, and people with diseases. "Things like this have to be taken into account. I think this NAS report opens up that possibility," said Cranor, author of the book, "Toxic Torts: Science, Law, and the Possibility of Justice."

The scientists told the EPA to put more emphasis on non-cancer effects of contaminants, to develop more sophisticated ways to analyze cumulative exposures to multiple chemicals, and to overhaul how it determines what dose of a chemical is considered safe. The agency should examine each chemical's effects on human health, such as how it contributes to a disease, and not assume there is a minimum exposure, or threshold, for causing effects, the committee said.

Don't Wait for New Technology

Because the changes are substantial, the panel recommended that the EPA phase in the new strategy with a series of demonstration projects.

"Some of these things we are suggesting are transformational. But some things could be done rather soon," Zeise said.

New technologies could vastly improve risk assessments by answering lingering questions about the risks that chemicals pose to human health. But they are at least a decade away so the EPA

should not wait, the panel said.

While the committee's recommendations are valid, "the key thing is whether there will be support" for such substantial changes within the government, said UCLA's Jackson, former director of the federal government's National Center for Environmental Health.

Cranor said the biggest limitation of the recommendations is that they would come under existing U.S. laws, which he said do not require chemical companies to supply adequate data about the dangers of chemicals before they are used in commerce.

"This document is a valiant attempt to improve the functioning of these laws," he said. "But we wouldn't have to worry as much about many of these substances if we had far superior testing and screening of them before people are exposed."

Download the complete report here from the National Academies Press.

Document title

Document title: Occurrence of endocrine-disrupting compounds in reclaimed water from Tianjin, China

Author(s)

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Abstract

Continuous disposal of endocrine-disrupting compounds (EDCs) into the environment can lead to serious human health problems and can affect plants and aquatic organisms. The determination of EDCs in water has become an increasingly important activity due to our increased knowledge about their toxicities, even at low concentration. The EDCs in water samples from the reclaimed water plant of Tianjin, northern China, were identified by gas chromatography (GC)-mass spectrometry (MS). Important and contrasting EDCs including estrone (E1), 17-estradiol (E2), 17a-ethynylestradiol (EE2), 4-tert-octylphenol (OP), 4- nonylphenol (NP), bisphenol A (BPA), di-n-butyl phthalate (DnBP), diisobutyl phthalate (DIBP), and di(2-ethylhexyl) phthalate (DEHP) were selected as the target compounds. Concentrations of steroid hormones, alkylphenolic compounds and phthalates ranged from below the limit of detection (LOD) to 8.1 ng L^{-1}, from <LOD to 14.2 ng L^{-1}, and from 1.00 g L^{-1} to 23.8 g L^{-1}, respectively. The average removal efficiencies for target EDCs varied from 30% to 82%. These results indicate that environmental endocrine disrupting compounds are not completely removed during reclaimed water treatment and may be carried over into the general aquatic environment.

Journal Title

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Document title

The occurrence and removal of phthalates in a trickle filter STW

Author(s)

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Abstract

This study investigated the fate of phthalates in a trickle filter sewage treatment works. A wide variety of phthalates were researched of which only two were present in significant amounts. Mean concentrations of di-(2-ethylhexyl) phthalate (DEHP) and diethyl phthalate (DEP) measured

throughout the system were 23.6 and 25.0g/l in raw sewage, 22.0 and 24.8g/l in primary, 14.6 and 0.60g/l in trickle filter, 18.6 and 0.10g/l in humus tank and 18.5 and 0.40g/l in reedbed effluents, respectively. Removal by the trickle filter was constantly high for DEP (94-99%) whereas DEHP was variable (<1-44%). Mean concentrations of DEHP and DEP in raw sludge were 30.2 and 1.60g/g dry wt, respectively. A mass balance for DEHP was calculated using data from field studies and estimates of sludge production at the works. The mass balance approach helped to provide information that could be used to improve the design and operation of sewage treatment works.

Journal Title

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