Environmental Technology Council

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Commission for Environmental Cooperation
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Comments on

Taking Stock, A Special Report on Toxic Chemicals and Children's Health in North America

Dear Mr. Kennedy:

The Environmental Technology Council (ETC) appreciates the opportunity to comment on the Draft version of *Taking Stock*.

Statement of Interest

The ETC is a national trade association of commercial firms that provide technologies and services for the treatment, recycling, and secure disposal of industrial and hazardous wastes. ETC member companies own and operate solvent recycling facilities, secure engineered landfills, incinerators, industrial furnaces that recycle hazardous waste fuels, and a variety of other types of facilities for the management of industrial and hazardous wastes. These facilities are located throughout the United States and Canada. Several of our U.S. companies also have permits under the Toxic

Substances Control Act to dispose of Polychlorinated Biphenyls (PCBs). Our members have made the investment necessary to obtain Federal and state permits and have worked with their local communities to develop effective public participation programs. These companies have highly trained employees and environmental management systems to comply with the protective standards of environmental laws. ETC member facilities were added to the Toxics Release Inventory (TRI) in 1997.

Overview

In a modern industrial society, toxic chemicals used to produce many consumer goods are a reality. When these dangerous chemicals are discarded, they need to be safety recycled, treated and disposed to minimize threats to public health and the environment. For example, treatment of toxic wastes by stabilization for disposal in a permitted engineered landfill can protect public health and the environment indefinitely. These landfills permitted under the Resource Conservation and Recovery Act (RCRA) must be constructed with dual synthetic liner systems, leachate collection and treatment systems both above and between the liners, leak detection systems, groundwater monitoring, and secure covers specifically to prevent releases of toxic substances to the environment. However, the TRI program as currently administered by the U.S. EPA requires companies to report disposal in such a landfill as equivalent to an uncontrolled release to the environment. Most readers would not understand that a "release" of a toxic substance to the environment, for the purpose of TRI reporting only, includes controlled disposal in a permitted double-lined landfill. (Note that such disposal is not a "release" under all other release reporting and response laws.) We are very concerned that the cause of children's health protection will not be well served if *Taking Stock* relies on inappropriate use of misleading TRI data about landfill disposal without adequate explanation and context. The draft report should be revised to accurately describe disposal of toxic substances in RCRA-permitted landfills.

The second section of our comments deals with the unrealistic and unhelpful discussion of PCBs.

Section 1. Toxics Release Inventory's Handling of Land Disposal

Under TRI, uncontrolled emissions to the air and water are "releases." So are spills on the ground. However, under TRI, disposing of toxic substances in a RCRA-permitted landfill built specifically so there will be no releases to the environment is also called a "release." The draft report, by relying on the TRI data without appropriate adjustment for this problem, condemns good actors and diverts the focus away from releases that can cause exposure to children.

This anomaly in TRI also results in "double counting" of toxic substances disposed in landfills because of how "off-site" releases are reported. If a company transfers its wastes to a recycler, the entire load is counted in TRI as a "transfer" for recycling even if only 10% of the volume shipped is actually recycled. However, if the company sends its waste to any landfill, the entire volume is called an "off-site release" in the TRI reports. Thus, the company must report this transfer as a pound of release and the landfill must also report it as one pound of release, so the TRI counts two pounds of chemical released. Recently, EPA has tried to back out the data to reduce the double counting. It is not clear in the draft *Taking Stock* whether this was attempted.

A clear example of TRI treating good companies as environmental bad actors is electric arc furnace dust that contains zinc from the steel industry. Electric arc furnace (EAF) dust is a toxic waste that is collected in the air pollution control system at steel mills. The amount of EAF dust generated has increased as air standards have become more stringent and air pollution control technologies have become more effective. These changes have resulted in a significant decrease in environmental exposures to these chemicals through air emissions. The toxic metals may now be collected and subsequently managed under the RCRA program.

Before the steel mill installed its air pollution control equipment, it could have millions of pounds of zinc releases to the air that were a major health concern. After the equipment is in place and the resulting pollution control dust is captured and managed by

a RCRA-permitted landfill, the environmental threat and exposure is close to zero. However, under TRI, the company has not reduced its TRI releases by even one pound. That is because under TRI exposure is ignored and air releases and "off-site" releases to permitted landfills are treated as the same. The ETC has asked EPA to change the data collection to follow the Canadian rule that disposal in an engineered landfill is not a release and that transfers to such landfills are not releases.

Why Disposal in Regulated Hazardous Waste Landfills is Protective and Does Not Cause Exposure

In 1976, the Congress passed RCRA, which regulates the proper disposal of hazardous waste. Under the law, hazardous waste must be disposed in facilities built to Federal requirements that make sure there are no releases to the environment. This law and the specific regulations applying to landfills are considered the most stringent in the world. In fact, the major criticism in the United States is that the RCRA regulations require "gold plated" facilities that are overly protective.

RCRA governs the location, design, construction, operation and final closure of hazardous waste landfills. These landfills must have RCRA permits that incorporate the regulatory standards. In addition, landfills must meet any more stringent state requirements, which often include on-site state inspectors, additional groundwater monitoring wells, restrictions on radioactive wastes, and more specific siting standards. State requirements cannot be less protective, and can be more stringent, than the Federal baseline. Hazardous waste landfills must be engineered with double composite liners and a leachate collection system above and between the liners, as well as a leak detection system capable of detecting, collecting and removing any leakage between the liners at the earliest practicable time. If leachate leaks into either of the collection systems, it is removed and treated to protect the groundwater.

Landfills must also control run-on and runoff. Run-on must be diverted to prevent erosion to the landfill. Run-off of precipitation must be collected and managed to

reduce the potential for off-site migration and to determine if the run-off is itself hazardous waste. Landfills must also be covered or managed to control wind dispersal.

All hazardous wastes shipped to landfills must be manifested so that regulators can trace the waste from "cradle to grave." Wastes are tested to determine which hazardous constituents are present so that the proper treatment can be applied and to guard against problems of waste incompatibility. After treatment, the material is tested again for toxicity and leachability before being placed in the engineered landfill cell for disposal.

Companies employ various technologies to meet the treatment standards for hazardous wastes established by EPA, which are based on the performance of the Best Demonstrated Available Technologies (BDAT). Technologies used to treat wastes prior to disposal in landfills include stabilization and neutralization of hazardous and non-hazardous sludges, soils, slurries, liquids, powders and dusts. Organic wastes are chemically oxidized prior to land disposal and various proprietary stabilization techniques are used for metal-bearing wastes rendering an insoluble, solid material for safe landfill disposal.

Minimum standards for security, inspections and personnel training are also established by EPA regulations. Siting restrictions assure that the landfill will avoid seismic, floodplain or other unstable conditions. Once a facility is no longer accepting wastes, the landfill must comply with closure and post-closure care requirements that assure that the owners perform certain monitoring and maintenance activities for a minimum of 30 years. Strict financial responsibility requirements assure that funds will be available for the period after the facility is closed.

Therefore, treating placement of toxic substances in a RCRA landfill as equivalent to a release to the air or water is clearly inaccurate. The draft report talks about exposure, but in the case of toxic substances disposed in a RCRA-permitted landfill, the exposure for all practical purposes is nonexistent. While EPA is currently reconsidering whether landfill disposal should be reported as a release under TRI, as

scientists trying to inform the public you are not bound by EPA's counter-intuitive interpretation. In order to properly inform the public, and to ensure that children's health is protected from actual exposure risks, your report should accurately evaluate the disposal of toxic substances in RCRA landfills, and not simply use the TRI data as if they reflect real exposure. Indeed, the TRI data segregates releases to RCRA landfills so CEC can easily modify their data to properly report on landfill disposal. Such a change would more accurately equate exposure opportunity and releases.

Taking Stock equates TRI releases with exposure and risk. The text of the report includes language that points to the improper characterization of land releases. For instance, page 16 lists "Pathways of Chemicals" and lists them in this order:

1. Air
2. Water
3. Food
4. Land/soil
5. Consumer products
6. *In utero* exposure
7. Breastfeeding

There is no discussion of the Land/soil exposure pathway. This pathway most commonly is ingestion of contaminated soils, not from contact with inaccessible engineered landfills. In the section, land/soil is listed as an exposure pathway but there is no discussion of how exposure could occur from this source.

This mischaracterization is demonstrated throughout the report. A common example is page 28:

> **"Which industrial sectors are releasing the largest quantities of carcinogens?** Three sectors were responsible for over half of the carcinogens released (on- and off-site) in North America in 2000 **(Figure 5)**.
>
> Hazardous Waste Management/Solvents Recovery, with 42,600 tonnes,
> Primary Metals, with 40,200 tonnes,
> Chemicals, with 38,500 tonnes"

Table 5, page 33, demonstrates how the inclusion of RCRA landfills misleads the reader and inaccurately portrays responsible companies as bad actors. The #2 "Industrial Facility with The Largest Releases of Suspected Carcinogens" is a Chemical Waste Management RCRA landfill in California. It "releases" **over 5 million kg. to its permitted landfill** but only 692 kg. to the air (mostly fugitive emissions caused by their properly equipped employees opening the containers as required by law so they can test the contents for levels of toxicity and to assure compatibility with other wastes). Contrast that with the facility listed as #15, which releases **1.6 million kg. to the air**. The threat is not from the #2 company that has annual air releases equivalent to four hours of operation of the 15th listed source. The same can be said for the other RCRA landfills #3, #5, #10, #11, #13, #14, #16 on the list and so on. Some of the other "large releasers" on this list are industrial facilities that may also have RCRA landfills on site or may be shipping wastes off site for proper RCRA disposal. This Table 5 grossly misleads the public and inaccurately characterizes the source of toxic exposure to children.

Table 9 "Facilities with the Largest Total Releases of Known or Suspected Developmental Toxicants (2000 Matched Data Set)" similarly misrepresents RCRA facilities and those companies that use them. For instance, #12 on the list is Nucor Steel. This manufacturer of steel products releases only 1,502 kg. into the air but is high on the list for sending over 6 million kg. to RCRA landfills, whereas the #17 company releases over 5,000,000 kg. into the air. Which is actually the greater threat to children? The same problem exists throughout the report. (See, for example, Table 13, the #8 and #9 "releasers" of suspected neurotoxicants)/

One example that must be mentioned is the discussion of Mercury and its compounds. The Pie Chart of Mercury Releasers, page 56, would show an entirely different picture if the RCRA landfills were removed. Remember that mercury is a metal; it cannot be destroyed. If a company has mercury it will be treated the same under the current TRI data release if spilled on the ground or emitted out the stack as air pollution or send to a RCRA landfill for stabilization and proper disposal. The discussion

on page 57 targets the good actor as the malefactor and diverts attention from the real problem.

Section 2. PCBs and the Environment

The report claims that dioxin and PCB exposure is caused by living in proximately to a hazardous waste facility (see pages 65 and page 61). We believe that this statement is untrue and cannot be documented. We believe that if any such data exists it is based on non-permitted facilities or obsolete data. We would like to see the sources of such statements.

The Report's "Solution" to the PCB Problem

Page 61 has a worrisome discussion of the sources of PCB exposure and solutions to reducing or eliminating the exposure that flies in the face of the common sense, the Stockholm Agreement on Persistent Organic Pollutants and good science. The text in question reads as follows:

> PCBs are still commonly found in soil, sediment, fish and people in North America. Because of the highly persistent, bioaccumulative nature of PCBs, it can take many decades for concentrations in the environment to decrease. For some children, such as those in the Arctic, those whose parents eat a lot of contaminated fish, or those who eat contaminated fish themselves, PCBs remain a health threat. Bans and phaseouts work to reduce environmental releases, but many children will still be exposed to harmful levels of PCBs during the time lag between phase-out and reduction in environmental concentrations**.** <u>This suggests that bans and phase-outs of chemicals identified to be of concern should not be delayed.</u>" [Emphasis added].

It is true that in the thirty years since PCBs were banned in North America, high levels of PCBs are still found in Arctic native populations as well as the Great Lakes. The problem is not solved by quicker phase-outs. After 30 years that should be clear. The solution is destruction of this persistent organic pollutant. Because PCBs are semi volatile, they vaporize into the atmosphere and eventually drop back to earth in colder

climes to contaminate areas sometimes thousands of miles from their source. EPA has noted that the PCBs that continue to appear in the Great Lakes and Great Lakes organisms originate from foreign sources outside of North America.

The Persistent Organic Pollutant treaty that bans PCBs is clear that ending the manufacturing and use of these chemicals does not solve the problem. The chemicals must be properly disposed, such as through chemical treatment, so they no longer have their dangerous characteristics.

The United States, through both TSCA and RCRA, have world class standards for PCB destruction and disposal that meets the Treaty's requirements for safe disposal. For example, chemical dechlorination is an effective non-thermal technology for lower concentration PCB wastes. Chemical dechlorination separates the chlorine molecule from the PCBs to form salts. This chemical treatment is 100% effective in destroying PCBs that are in concentrations below about 12,000 parts per million, but is not applicable to higher concentrations. Incineration is the necessary treatment with higher concentrations. Under TSCA, incinerators are required to have an efficiency of PCB destruction of 99.9999%. Under Clean Air Act MACT standards, the incinerators must have air pollution control technologies that reduce dioxin emissions to the lowest possible levels. Land disposal in engineered RCRA landfills is permitted when PCBs are below 500 parts per from remediation sites or otherwise below 50 parts per million. These are consistent with world-class requirements required in Article 6 of the Treaty.

The report should acknowledge that proper disposal and destruction of PCB is an important way to reduce children's exposure to PCBs. Because the source is sometimes out of North America, it is incumbent upon countries with proper facilities to allow import of these PCBs for proper disposal. The paragraph from the report avoids the real solution to PCB exposure. We urge that the authors look to the Persistent Organic Pollutant Treaty as guidance on addressing the PCB problem. If the POPs Treaty is not

implemented, exposure to PCBs in the Arctic and other locations will not be reduced for another thirty years.

Thank you for considering our views.

Very truly yours,

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