

Review and Analysis of the Effect of EPA's Toxics Release Inventory (TRI) Phase II Burden Reduction Proposal on Tri Data Uses

by

**E.H. Pechan & Associates, Inc.
Durham, NC 27707**

for



Under contract SBAHQ-03C0020

Release Date: June 2007

This report was developed under a contract with the Small Business Administration, Office of Advocacy, and contains information and analysis that was reviewed and edited by officials of the Office of Advocacy. However, the final conclusions of the report do not necessarily reflect the views of the Office of Advocacy.

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2007. [35 pages.] Under contract number SBAHQ-03C0020

Background

Section 313 of the Emergency Planning and Community Right to Know Act (EPCRA) requires facilities to report on various quantities of chemical releases, and the amounts of chemicals managed on and off site. The public uses this information to estimate local health risks associated with these chemicals, and to develop policies to reduce these risks. EPA and other regulators use this information to develop regulations and to track progress in reducing toxic chemical releases. The original regulations were adopted in 1987, and additional requirements have been added over the years.

The reporting burden on businesses, particularly small businesses, has been substantial. In 1994, EPA adopted a short form, Form A, to replace the longer Form R in an attempt to reduce the burden on small firms with small amounts of chemicals handled within a facility. In December 2006, EPA adopted another reform in response to concerns that the 1994 Form A reform did not provide relief to enough facilities.

Critics of the new reform claim that TRI data uses will be impaired by the 2006 changes. In the absence of previous analysis on this topic, this research was conducted to identify different types of TRI data uses and determine whether the public, government regulators, or other users would lose significant information about risks if facilities substitute the short form for the long form, as permitted in the 2006 reform.

Overall Findings

E.H. Pechan & Associates (Pechan) examined the effect of the October 2005 proposal on TRI data uses. Pechan reviewed over 2,000 comments on the proposed rule and identified 17 specific uses of TRI data, addressing national, state, and local concerns. Based on this analysis, the report found that the December 2006 final rule will not have significant impacts on data uses identified by commenters.

Highlights

- Of the 17 examples of TRI data use the report identified, there was either no effect or no significant effect on all but one use. With respect to an examination of chemical usage in the Louisville, Kentucky area, the effect of the substitution of Form A for Form R was indeterminate.
- In addition, the Pechan analysis was based on the proposal, and not the final rule, which added back 60 percent of the Form R release-related information that was previously substituted for Form A in the proposal. As a result, the conclusion of this report is even stronger than the analysis indicates: the TRI reform as adopted by EPA in December 2006 has an insignificant effect on all identified uses of TRI data.

Scope and Methodology

Pechan employed facility-level TRI data analyzed at the local, state, and national levels to estimate

the change in data utility that commenters identified as an effect of the reporting burden reduction. This approach allowed Pechan to examine specific changes in data reported on Form R for each listed chemical within the chosen geographic region. The default was to use 2003 TRI data, the most recent available when the analysis was undertaken, but Pechan also employed historic data when necessary and available to examine the specific data use identified in the comments.

Note

This report was peer-reviewed consistent with Advocacy's data quality guidelines. More information on this process can be obtained by contacting the Director of Economic Research at advocacy@sba.gov or (202) 205-6533.

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A. BACKGROUND

Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) requires facilities to report the quantities of routine and accidental releases, and releases resulting from catastrophic or other one-time events of subject chemicals, as well as the maximum amount of each chemical on-site during the calendar year, and the amount contained in wastes managed on-site or transferred off-site.

EPCRA Toxics Release Inventory (TRI) information is used by both the public and EPA. The public uses this information to understand who the largest toxic chemical emitters are in their local community, to estimate local health risks associated with these chemical releases, and to develop policies to reduce these risks. The EPA uses this information to track progress in reducing toxic chemical releases and to assist the Agency in determining the need for future regulations.

TRI reporting was initially required of facilities in the manufacturing sector (i.e., Standard Industrial Classification [SIC] codes 20-39) that have 10 or more full-time employee equivalents and manufacture (including import), process, or otherwise use any EPCRA section 313 (TRI) chemical in calendar year quantities greater than the established thresholds.

As originally promulgated in 1988, the thresholds for manufacturing and processing were 25,000 pounds and the otherwise use threshold was 10,000 pounds. These thresholds were later modified for persistent, bioaccumulative and toxic (PBT) chemicals. In addition, the original rule provided for range reporting, instead of point estimates, for certain sections of the Form R report, as a means for reducing the burden of reporting small quantities of up to 1,000 pounds.

Section 6607 of the Pollution Prevention Act of 1990 expanded reporting requirements to include toxic chemical source reduction, energy recovery, recycling, and treatment data. In 1993, EPA expanded the list of covered chemicals for the first time. In 1994 it added 286 more chemicals and chemical categories. Also in 1994, EPA amended TRI regulations to permit facilities with low levels of waste to report via a shorter Form A Certification Statement, beginning in 1995. The Form A allows facilities that generate small quantities of chemical waste to file abbreviated annual reports, saving businesses millions of dollars every year. All other facilities continued to use the standard Form R.

A facility may currently use the Form A only if their total waste for a given chemical does not exceed 500 pounds in a single year. For the purpose of defining Form A eligibility, the concept of total wastes refers to the "annual reportable amount" (ARA). As originally specified, ARA was identified as the sum of Form R Sections 8.1 through 8.7 (Section 8.8, which reflects quantities released as a result of remedial actions, catastrophic events, or one-time events not associated with production processes, was excluded). In order to qualify for the Form A, the facility must also process, manufacture or otherwise use less than one million pounds, which is the alternate threshold amount that applies to the Form A universe of reporters. The Form A provides the name of the chemical and some facility identification information, but no information regarding the disposition of the waste chemical (e.g. air or water release).

In 1999, EPA expanded the chemical list yet again and divided it into two categories: PBT chemicals and non-PBT chemicals. PBT chemicals are subjected to stricter reporting thresholds and are currently ineligible for Form A. For PBT chemicals, the thresholds are 100 pounds for manufacture, process or otherwise use. The threshold for a subset of PBT chemicals found to be highly bioaccumulative and persistent was lowered to 10 pounds. For dioxin and dioxin-like compounds, the threshold was lowered further to 0.1 gram. Additionally, for PBT chemicals, the use of Form A, range reporting, and a *de minimis* concentration exemption are not available, thus increasing the burden of reporting for PBT chemical filings. In 2001, EPA added lead and lead compounds to the PBT chemical list, resulting in a fourfold increase in Form R filings for that chemical category (the number of filings grew from 2,025 in 2000 to 8,734 in 2001). Many of the new reports describe zero on-site releases whose right-to-know value to the public is questionable. Lead reporting in 2001 accounted for 59.3 percent of the total number of PBT reports (JFA, 2004).

The EPA committed to further reduce the burden of paperwork associated with reporting as far back as 1997 when it expanded the number of covered chemicals and industries.¹ In its October 1, 1996, Terms of Clearance document for TRI data collection, the Office of Management and Budget (OMB) asked EPA to investigate changes, including specifically the adoption of a higher reportable amount for Form A eligibility. In 1998, the Toxics Data Reporting Subcommittee to the National Advisory Council for Environmental Policy and Technology (NACEPT) offered opinions on raising the alternate threshold, but the Subcommittee never filed formal recommendations and no action was considered by EPA. The OMB has continued issuing requests for burden reduction since 1996 as part of the Information Collection Request process.

On December 18, 2006, EPA promulgated TRI (phase II) reporting burden relief for both non-PBT and PBT chemicals. In addition to expanding Form A eligibility to some PBT chemical forms with zero releases when they have other waste management quantities of no more than 500 pounds, EPA expanded Form A non-PBT eligibility by increasing the ARA threshold from 500 lbs to 5,000 lbs (provided that total releases/other disposal quantities are not greater than 2,000 pounds).²

B. PURPOSE AND ORGANIZATION

The purpose of this report is to review information describing how TRI data are currently used, and to identify the impact of EPA's reporting burden relief on these current uses. Because the data for this study were compiled in Spring 2006, the results pertain to the TRI reporting changes reflected in EPA's proposed rule (70 FR 57822, 2005) and generally reflects impact estimates based on TRI data from reporting year (RY) 2003. However, section C.2. of this report describes

¹ EPA believes that [Form R and Form A] can be revised to make it simpler and less costly for businesses to meet their recordkeeping and reporting obligations . . . EPA is initiating an intensive stakeholder process – involving citizens groups, industry, small businesses and states – to conduct comprehensive evaluation of the current TRI reporting forms and reporting practices with the explicit goal of identifying opportunities, consistent with community right-to-know and the relevant law, to simplify and/or reduce the cost of TRI reporting.” (62 FR 23834, 1997).

² As part of the final TRI rule, EPA revised the non-PBT ARA to include Form R Section 8.8 quantities.

how the conclusions from the Spring 2006 analysis are affected by the Form A eligibility changes incorporated into the final rule (71 FR 76932, 2006).

Pechan's review of the impacts of EPA's proposal on TRI data users focused on data use examples described in comments submitted to EPA in opposition to the proposed reporting revisions. Pechan reviewed the names of more than 2,000 comment entries submitted in response to the proposed TRI reporting burden relief rule. From this list, Pechan identified the following five comments that provided discussion of specific examples of TRI data use:

- comments submitted by OMB Watch (Moulton, 2006);
- comments from the Attorneys General in twelve States (Frank, 2006);
- comments from the Society of Environmental Journalists (Davis, 2006);
- comments submitted by the National Environmental Trust (Natan, 2006); and
- comments from the Maine's Department of Environmental Protection (Littell, 2005).

Pechan then selected 17 specific data uses from these comments for evaluation of the potential impact of EPA's TRI reform proposals on each use. The comments describe TRI data uses that represent the full spectrum of described uses at various geographic levels (i.e., local, state/regional, and national) and generally assert that such uses will be seriously harmed by EPA's proposal. Because Pechan has obtained TRI data from EPA for recent analyses of TRI reform proposals, the SBA's Office of Advocacy requested that Pechan independently evaluate the impact of EPA's proposal on the local, regional, and national examples of TRI data uses described in the above comments.

Although Pechan did not exclude examples that focus on data for one TRI reporting facility, Pechan gave preference to examples that reflect use of data for multiple TRI reporting facilities. Pechan used this approach to avoid data uses that would tend not to be affected by EPA's proposal (it is more likely that single facility examples will not be affected because they typically involve very large facilities). Although Pechan was able to analyze the impact of EPA's proposal on most of the identified data use examples, some examples reflect specific uses from the early 1990s. In many cases, Pechan simulated these uses using recent TRI data; however, some data use examples could not be replicated.³

It should be noted that the impacts cited in this report are generally based on the changes in the quantity of hazardous waste reported on Form R. These estimates assume that all Form Rs that become Form A eligible will actually choose to report using Form A. In reality, it is expected that many Form A eligible facilities will continue to report their toxic chemical information using Form R. Based on Form R ARA data, an additional 9,878 Form Rs, or 15.7 percent of total non-PBT Form Rs, were eligible for Form A reporting in 2000 (Pechan, 2004). Some facilities that are eligible to use Form A may choose to use Form R because they manage multiple chemicals and find it easier to use a consistent reporting system. Others may want to be

³ Pechan also considered a review of the TRI data uses described in a 2003 EPA report (EPA, 2003), but determined that most of these examples are from the early and mid 1990s--in fact many of the examples date back to a 1995 EPA data use report (EPA, 1995). Because efforts to analyze the impact of EPA's TRI reform proposal on these examples would be problematic given the many changes that have occurred to the reporting requirements over the last decade, Pechan chose to focus on the comments submitted in response to EPA's proposal.

viewed as a “good corporate citizen” or consider Form R reporting as consistent with corporate environmental goals/policies. It is likely that many of the facilities that continue to use Form R are larger firms that can more easily absorb the burden of preparing Form R. It is expected that continued use of Form R reporting will occur if the ARA thresholds are raised, thereby reducing their impact with respect to TRI data that will no longer be reported on Form R.

Furthermore, to the extent that the ultimate purpose of TRI data is to assist in characterizing (and potentially reducing) health risks, a full evaluation of the impact of EPA’s proposal would supplement the waste quantity impact estimates described herein with toxicity, dose, and exposure estimates. Such a risk assessment was beyond the scope of this effort.⁴

The remainder of this document is organized into the following sections:

- Section C – summary of the TRI data use impacts analyzed in this report;
- Section D – local community/government use of TRI data;
- Section E – State government use of TRI data;
- Section F – national use of TRI data; and
- Section G – the references that were consulted in preparing this report.

C. SUMMARY OF DATA USE IMPACTS

1. Summary of Proposed Rule Data Use Impacts

Pechan analyzed 17 national, state, and local TRI data use examples, and determined that, with the possible exception of one example, EPA’s proposal will have insignificant effects on these data uses. Although all of the commenters either explicitly or implicitly provided data use examples to demonstrate problems created for TRI data users, for the most part, commenters appeared to assume without examination that any revision in data availability would significantly harm data use. As described later in this report, Pechan found several instances where the commenters either misunderstood or misreported the nature of the proposed TRI revisions, and several cases where they misreported the underlying facts. For example, commenters failed to appreciate that no changes were proposed for PBTs, such as mercury, when the facility has any releases into the environment. Therefore, data users who were concerned about PBT releases going unreported were addressing a nonexistent issue. Additional examples of types of data uses where no impact is anticipated include uses to support chemical emergency planning and to support characterization of dioxin quantities (dioxins are exempt from EPA’s proposal). In addition, many of the examples involve the use of TRI data to target facilities with the highest releases and/or total waste quantities for reductions. These uses are minimally (if at all) affected by EPA’s proposal because the proposal limits Form A eligibility to small waste quantity reporters.

The one example where EPA’s proposal may have a potential for significant impact is a TRI data use identified in the Louisville, Kentucky, area. This example is unique in that it relies on the use of Form R data in EPA’s Risk Screening Environmental Indicators (RSEI) Chronic Human

⁴ As an alternative, EPA’s Risk Screening Environmental Indicators (RSEI) Chronic Human Health Model is a screening tool that can be used to estimate relative changes in potential health risks.

Health Model as one of the model's inputs for developing risk scores. Pechan's analysis of the Louisville use indicates that 3 of the 19 chemicals with risk scores of 500 or above, which was the threshold determination for requirement for additional health risk modeling as part of the area's Strategic Toxic Air Reduction (STAR) program, would have their risk scores drop below 500 when Form A eligible Form Rs are eliminated.⁵ In addition to these chemicals, EPA's proposal results in risk scores for Cobalt/Cobalt compounds and Chlorine that decrease by more than 25 percent from baseline levels. It is not possible to state that any of the RSEI risk score changes resulting from EPA's proposal are indicative of actual changes in ability to characterize significant health risks. A detailed quantitative risk assessment, which is beyond the scope of this effort, would be required to support such a conclusion.

The following sections describe each of the 17 reviewed data uses, and provide Pechan's analysis of how EPA's proposed TRI reporting burden relief would impact each use.

2. Implications of TRI Reporting Changes Adopted in Final Rule

The final TRI reporting burden reduction rule differs from the proposed rule in two significant ways: (1) the non-PBT ARA has been revised to include section 8.8 (one-time event) quantities; and (2) non-PBT Form A eligibility has been narrowed by an additional criterion that places a 2,000-pound limit on releases of non-PBT chemicals. Assuming full use of Form A, EPA notes that the second change preserves almost 60 percent of the total release pounds that would have no longer been reported on Form R under the proposed rule (EPA, 2006a). This fact, coupled with the addition of Section 8.8 quantities in the ARA, will only strengthen the insignificant data use impact conclusion reached in the Spring 2006 study.⁶ Furthermore, many Form A eligible facilities are expected to continue to report their toxic chemical information using Form R. As noted in its Response to Comments document, EPA states that: "...the Agency has observed that only slightly over half of the forms (54 percent) potentially eligible for Form A use take advantage of that option. ...the Agency does not believe the rate of Form A utilization is likely to be significantly higher at a 5,000-pound ARA with a 2,000-pound release limit for non-PBTs or at a 500-pound ARA with a zero release requirement for PBTs than it has been to date at the 500-pound ARA threshold for non-PBTs" (EPA, 2006a). Such continued Form R reporting will serve to further reduce the effects of EPA's final reporting burden relief rule on TRI data users. The balance of this document describes the Spring 2006 analyses that assessed the impact of EPA's proposed burden relief rule on TRI data users.

D. LOCAL USE OF TRI DATA

The local community TRI data use examples described in the comments submitted on EPA's proposal fall into one of two general categories: (1) examples where data are used to identify the facilities with the largest releases in a community for the purpose of applying public pressure on these facilities to reduce these releases; and (2) examples where data are used to track/reduce

⁵ Note that one of these three chemicals would have been excluded if all currently eligible Form Rs reported using Form A.

⁶ Because EPA estimates that less than 4 percent of all non-PBT chemical Form Rs have a value greater than zero in section 8.8 (EPA, 2006), Section 8.8 quantities are not expected to play a major role in most Form A eligibility determinations.

community-wide toxic releases. The following subsections describe six examples that are representative of these types of local TRI data uses, and provide Pechan's analysis of the impact of EPA's TRI reform proposals on these examples.

1. Chicago, Illinois

The following is the OMB Watch's description of use of TRI data by the residents of a neighborhood in Chicago, Illinois.

"Neighborhood Group Takes Action Against Local Polluters"

Chicago, Illinois -- The Chicago Tribune reports that TRI data informed concerned residents of Chicago's Pilsen neighborhood that the nearby brass foundry was the city's largest emitter of airborne lead. In 2004, the residents formed the Pilsen Environmental Rights and Reform Organization and pushed for air testing, which found highly elevated levels of lead in the area. As a result the group was able to secure agreements from the company to reduce emissions" (Moulton, 2006 at pg. 16).

Pechan's review indicates that elevated lead levels were found in a portion of soil samples taken near the facility, and that the facility in question (H. Kramer & Company) continues to deny that their facility is the cause of high levels of lead in nearby soil. In addition, Kramer has not agreed to reduce their lead emissions, but did agree to remediate soil at two specific locations near their facility. To analyze the impact of EPA's proposal on this data use, Pechan reviewed 2003 TRI data to determine if this facility would become eligible for Form A reporting. Because the facility had non-zero lead releases in 2003, it would not be eligible for Form A reporting under EPA's PBT chemical proposal (lead is a PBT chemical).⁷

In the course of conducting research into this example, Pechan identified an article that asserted that EPA's proposal would eliminate all TRI Form R reporting for Pilsen's zip code (Bess, 2006). Pechan's review of the Illinois Public Interest Research Group (PIRG) report that was the original data source for this article (Illinois PIRG, 2005) was unable to identify information supporting this conclusion. Therefore, Pechan performed an independent analysis of 2002 TRI data that indicated that 14 of the 30 total Form Rs (approximately 45 percent) in Pilsen's zip code (60608) would become Form A eligible under EPA's proposal. However, these reports account for only 4.5 percent of total zip code releases, and 0.7 percent of total zip code waste quantity as measured by annual reportable amount (ARA). Pechan's analysis also indicates that this zip code would experience no loss of any of the five PBT chemical Form R reports.

2. Memphis, Tennessee

The OMB Watch comments described the following use of TRI data by the local Memphis, Tennessee, Sierra Club.

⁷ 2003 year releases were 3,530 pounds; 2002 year releases were 4,000 pounds.

“TRI Exposes the Top Terrible Ten Polluters

Memphis, Tennessee -- The Memphis Sierra Club uses the TRI to educate the community in their annual Terrible Ten Report. This report highlights the top ten polluters in the county, showing their estimated emissions for the year. To encourage users of the report to engage in dialog with local environmental agencies about discharges, pollution reduction plans, and emergency management planning, the Sierra Club lists hotline numbers and the names and phone numbers of plant managers. The Terrible Ten brings information on chemical releases still closer to home by listing health effects for the toxic substances to which people are exposed. While no claims are made that the toxic discharges are causing specific health problems, the report provides the information needed for people to form their own conclusions” (Moulton, 2006 at pg. 18).

Based on 2003 TRI data for the top ten facilities in Shelby County, Pechan estimates that EPA's proposal will result in 417 pounds of releases reported on Form R newly becoming Form A eligible (see Table 1). Relative to the 9 million pounds of baseline releases for the top 10 county facilities, this represents less than 0.005 percent of releases in that year.

Table 1. Comparison of Current 2003 RY Releases and Post-EPA Proposal Releases for Top 10 Facilities in Shelby County, Tennessee

<u>2003 RY TRI RECORDS FOR SHELBY COUNTY, TENNESSEE</u>				<u>NON-FORM A ELIGIBLE RECORDS</u>		
<u>Rank</u>	<u>TRI Facility ID</u>	<u>Facility Name</u>	<u>Total Releases</u>	<u>Total Releases</u>	<u>Difference</u>	<u>% Difference</u>
1	38109STVLL2574P	U.S. TVA ALLEN FOSSIL PLANT	3,151,580	3,151,580	0	0.00
2	38127WRGRC5790O	PCS NITROGEN FERTILIZER LP	1,323,459	1,323,459	0	0.00
3	38116MXWLL828EA	QW MEMPHIS CORP	1,181,926	1,181,926	0	0.00
4	38108WTCCR1231P	CROMPTON CORP	803,541	803,541	0	0.00
5	38127CCRYL2665F	LUCITE INTERNATIONAL INC.	799,120	799,120	0	0.00
6	38113CRGLL2330B	CARGILL INC	787,225	787,225	0	0.00
7	38127DPNTM2571F	DU PONT MEMPHIS PLANT	321,489	321,442	47	0.01
8	38108NNCNC3018B	ENENCO INC	303,450	303,080	370	0.12
9	38108STHRN2782C	SOUTHERN COTTON OIL CO	293,986	293,986	0	0.00
10	38108QCHMC3324C	PENN SPECIALTY CHEMICALS	110,828	110,828	0	0.00
Subtotal			9,076,604	9,076,187	417	0.0046

Although OMB Watch described use of TRI data only for the top 10 county facilities, Pechan also analyzed the change in reported releases for all Form Rs in the county that become newly eligible for Form A reporting. Pechan estimates that only 0.52 percent of total Shelby County releases would become newly Form A eligible under EPA's proposal.

3. Dallas/Forth Worth, Texas

The following is the OMB Watch’s description of how TRI data are used to inform the Dallas/Fort Worth area of potential public health concerns related to toxic air releases.

“TRI Data Used by Public Health Physician to Monitor Air Pollution

Dallas, TX -- The Fort Worth Star Telegram reports that Dr. Arnold Schechter, a public-health physician at the University of Texas School of Public Health in Dallas, uses TRI data to monitor toxic releases in the Dallas/Fort Worth region and protect the public against air pollution which is “responsible for some increase in illness, possibly even increased mortality.” The Dallas/Fort Worth region contains large power plants that rank among the largest polluters of mercury in North America. “Without periodic monitoring, it will not be possible to determine whether the air is becoming more or less polluted,” Schechter said. “Decreasing the amount of information available on air quality seems a step backwards with respect to health” (Moulton, 2006 at pg. 20).

Pechan evaluated the impact of EPA’s proposal to increase Form A reporting eligibility using 2003 TRI data. Pechan was unable to obtain the original news article to determine whether the Dallas/Forth Worth region that was mentioned referred to the 12 counties that comprise the entire Dallas/Forth Worth metropolitan area, or the two counties (Dallas and Tarrant) that closely approximate the Dallas and Fort Worth municipal boundaries. Therefore, Pechan conducted the TRI analyses for both geographic areas. As demonstrated in Table 2, EPA’s proposal will have minimal impact on TRI reporting of releases in the Dallas/Fort Worth region. As noted in Table 2, air release quantities associated with Form A eligible forms that currently report using Form R are similar to the quantities associated with EPA’s proposal. Although the commenter expressed a concern about large mercury releases from the power plants in the Dallas/Fort Worth area, the commenter overlooked the fact that mercury releases by power plants will be unaffected by EPA’s proposal since there will be no change in PBT release reporting under the proposal.

Table 2. Dallas-Fort Worth Impacts of EPA's Proposed TRI Reform Regulations

2003 Reporting Year Air Release Quantities (pounds)			% Reduction from Current Form A Eligible	% Reduction from Newly Form A Eligible
Total Air Releases	Current Form A Eligible*	Newly Form A Eligible		
<i>Dallas-Fort Worth-Arlington Metropolitan Statistical Area</i>				
5,442,925	158,726	162,884	2.9%	3.0%
<i>Dallas And Tarrant Counties</i>				
2,433,195	151,658	119,294	6.2%	4.9%

* Reporting year release quantities that are currently Form A eligible based on the 500 pound ARA threshold.

4. Louisville, Kentucky

The comments supplied by 12 State’s Attorneys General describe the use of TRI and other data by the Louisville Metro Air Pollution Control Board (LMAPCB) in devising a program to reduce toxic air pollutant emissions (Frank, 2006 at pg. 4). The LMAPCB’s Strategic Toxic Air Reduction (STAR) program is a multi-year effort that will require companies with higher toxic chemicals air releases to significantly reduce their emissions. In addition to the 18 chemicals that air quality monitors determined to be local health risks, LMAPCB used the EPA’s Risk Screening Environmental Indicators (RSEI) Chronic Human Health model, which uses TRI air

release data, to identify 19 additional chemicals for potential regulation (pending further modeling) in their STAR program.

The LMAPCB has identified 19 chemicals “that may exceed health risk goals” based on chemicals with year 2002 RSEI model risk scores of 500 or above. In a press release, LMAPCB summarizes the STAR program as requiring “...approximately 170 companies that emit the largest amounts of chemicals to conduct modeling to determine if emissions exceed the health risk goal for 37 targeted chemicals – the 18 toxic chemicals already proven to exceed the (sic) health risk goal and another 19 chemicals that may exceed the new goal based on aggregate data supplied to the EPA by local companies” (LMAPCB, 2005 at pg. 2).⁸ Many industry commenters indicated that the STAR approach was technically deficient, and that the requirements were overly stringent. Ford Motor Company indicated that the goals were “several orders of magnitude more restrictive than necessary to protect public health and welfare” (Karl, 2005 at pg. 5). In this particular area, the total RSEI score of the 19 chemicals was about one quarter of the total RSEI risk score (however, the RSEI model does not indicate the presence of 5 of the 18 chemicals in Jefferson County that local air quality monitors indicate as exceeding the health risk goal).

Pechan queried the latest version of the RSEI model for Jefferson County, Kentucky, and identified the same 19 chemicals listed by LMAPCB as having 2002 RSEI scores of 500 or above. Table 3 summarizes the results of Pechan analyses that remove Form Rs for these chemicals that (a) are currently Form A eligible based on the current 500 pound non-PBT ARA threshold; and (b) that would be Form A eligible under EPA’s proposal. This table indicates that only 3 of the listed chemicals that have RSEI scores of at least 500 would no longer have RSEI scores of 500 or above under EPA’s proposal, and that one of these (Diisocyanates) would be below this threshold if all Form Rs that are currently Form A eligible were to report using the shorter form. *It should be emphasized that an RSEI score of 500 is not indicative of a health risk, but rather represents the LMAPCB’s threshold for requiring health risk modeling.*

Table 3. Chemicals in Jefferson County, Kentucky, with 2002 RSEI Scores of 500 or Above

1,2,4-Trimethylbenzene	Hydrochloric acid
Aluminum (fume or dust)	Hydrogen fluoride
Ammonia	Lead & Lead compounds
Boron Trifluoride	Manganese & Manganese compounds
Butyl Acrylate	Naphthalene
Chlorine	Nitric acid
Cobalt & Cobalt compounds	Sulfuric acid
Copper & Copper compounds	Toluene
Diisocyanates	Xylene (mixed isomers)
Glycol ethers	

Under EPA’s proposal, risk scores drop below 500 for chemicals identified in shaded cells; Diisocyanates also drops below 500 when current Form A eligible forms are removed.

⁸ Note that some commenters questioned the use of the RSEI, and in particular, use of a risk score threshold of 500, as a criterion for requiring additional health risk modeling under the STAR program (Keane and Darling, 2005).

Table 4 displays the 2002 RSEI risk scores for the 19 chemicals, the risk scores when all current Form A eligible records are removed, and the risk scores after removing all records with reportable amounts below EPA’s proposed Form A eligibility thresholds. This table also indicates that, post-EPA proposal, the majority of chemicals that continue to have risk scores of above 500 would see a modest decrease in their scores. Exceptions include Cobalt/Cobalt compounds and Chlorine, both of which see risk score decreases of more than 25 percent from baseline levels. To determine that these large percentage changes in risk scores are indicative of significant changes in health risk would require a detailed quantitative risk assessment that is beyond the scope of this effort. It may be instructive to review the results of the screening analysis/regulatory requirements in future years to determine what, if any, effect the EPA proposal would have.

Table 4. Chemicals in Jefferson County, Kentucky, with 2002 RSEI Scores of 500 or Above

Chemical	Actual 2002 Form Rs*	RSEI Score With Currently Eligible Form As Removed	EPA Proposal
1,2,4-Trimethylbenzene	13,644	13,644	13,339
Aluminum (fume or dust)	11,427	11,427	11,427
Ammonia	7,385	7,385	7,374
Boron trifluoride	1,890	1,890	0
Butyl acrylate	3,712	3,707	2,813
Chlorine	3,049	3,049	536
Cobalt & Cobalt compounds	66,201	45,356	1,588
Copper & Copper compounds	2,612	2,548	325
Diisocyanates	586	42	42
Glycol ethers	10,178	10,168	10,142
Hydrochloric acid	3,297	3,297	3,297
Hydrogen fluoride	1,518	1,518	1,518
Lead & Lead compounds	3,249	3,249	3,249
Manganese & Manganese compounds	8,881	8,733	8,587
Naphthalene	806	806	629
Nitric acid	3,311	3,311	3,311
Sulfuric acid	17,945	17,929	17,929
Toluene	1,455	1,454	1,447
Xylene (mixed isomers)	3,055	3,054	3,026

* Includes records that are currently Form A eligible

5. Richmond, California

In Richmond, California, concerned citizens used TRI data to support negotiations that resulted in chemical release reductions for a Chevron oil refinery (Frank, 2006 at pg. 5). In the late 1980s, the West County Toxics Coalition teamed with Citizens for a Better Environment (CBE), a statewide environmental organization, to investigate industrial generated pollution in Richmond, California (EPA, 2003). Using the TRI and other databases, they published a report that identified the Chevron oil refinery as the top emitting facility (CBE, 1989). The report helped spur discussions that ultimately resulted in Chevron agreeing in 1994 to close down older portions of the plant and to install equipment to achieve zero net toxic chemical releases on a

reformulated fuel project (EPA, 2003 at pg. 7). Pechan queried the 2003 TRI database and identified 35 Form Rs for the Chevron Products Company in Richmond, California. An analysis of these records indicated that two Form Rs are currently eligible for Form A reporting based on the existing 500 pound non-PBT ARA threshold. An additional 5 Form Rs would be Form A eligible under EPA’s proposal. Table 5 presents the Form R release quantities associated with all 2003 RY Form Rs, and Form Rs that are currently Form A eligible, and Form Rs that would be eligible for Form A reporting under EPA’s proposal. This table indicates that EPA’s proposal would result in a reduction of less than 1 percent in reported releases relative to all current Form R releases.

Table 5. Richmond, California, Impacts of EPA's Proposed TRI Reform Regulations

2003 Reporting Year Release Quantities (pounds)			% Reduction from Current Form A Eligible	% Reduction from Newly Form A Eligible
Total Releases	Current Form A Eligible	Newly Form A Eligible		
<i>Chevron Products Co. Richmond Refinery, California</i>				
1,059,321	302	8,803	0.03%	0.83%

* Reporting year release quantities that are currently Form A eligible based on the 500 pound ARA threshold.

6. Minneapolis, Minnesota

Representatives from neighborhoods in southeast Minneapolis used TRI information to convince Ritrama, a facility producing adhesives for labels and decals, to sign an agreement in 2003 to voluntarily reduce toluene emissions by 98 percent (Frank, 2006 at pg. 5). Pechan’s analysis determined that all 3 current Form Rs for this facility would be ineligible for Form A reporting under EPA’s proposal, and that the lowest non-PBT ARA in 2003 for Ritrama was 30,000 pounds.

E. STATE/REGIONAL USE OF TRI DATA

Pechan analyzed the impact of EPA’s proposal on eight examples where TRI data have been used at a State or regional level.

1. Washington State Department of Ecology

The following Washington State TRI data use example was reported in OMB Watch’s comments on EPA’s proposed TRI reform regulation.

“TRI Used in State Pollution Prevention Program

Olympia, Washington -- Idell Hansen from the Washington State Department of Ecology tells OMB Watch, “We use the TRI to enroll companies in the states 'pollution prevention' program. EPA's proposed changes to the TRI program would compel up to 15 % of the facilities to drop out of our pollution prevention program -- lost opportunities for pollution reductions. For this reason alone, we think the proposed rule is a bad idea.” (Moulton, 2006 at pg. 19).

Based on Pechan’s review of available State pollution prevention (P2) program information and contact with State officials, the above impact results from how the State implements their pollution prevention program, not from a State statute that mandates that the program include only Form R reporters. Specifically, under Chapter 173-307 of the Washington Administrative Code, “facilities that report under Section 313 of the EPCRA, or that generate more than 2,640 pounds of hazardous waste per year, must prepare pollution prevention plans.” There is no statutory distinction between EPCRA filers that use Form A versus Form R. On a related note, when a program participant switches from Form R to Form A reporting due to a reduction in waste quantity, the State no longer requires their participation in the P2 program.⁹

Although the Department of Ecology uses both annual TRI Form R reports and the State’s Dangerous Waste Annual Reports to identify and notify facilities that they are required to submit a P2 plan, there is no reason why they could not use Form A information in the same manner. As noted by one program official, Washington’s P2 program excludes Form A reporters “because there are not very many and the environmental risks seem minimal. However...there is nothing in (a) statute or regulation that prevents us from requiring Form A reporters to develop pollution prevention plans. At this point, we have chosen to exclude them based on degree of risk” (Morgan, 2006).

Therefore, a change in EPA’s TRI reporting requirements would not require Washington to drop facilities from their P2 program in that the State has chosen to implement their program in this way because Form A filers have been deemed to create minimal health risks. In other words, EPA’s TRI program reporting thresholds do not preempt the States’ ability to determine the parameters of their own P2 programs. To the extent that Washington believes that Form A filers or other entities represent a significant health risk, then Washington can choose to include such entities in their P2 program regardless of EPA’s Form A eligibility thresholds.

In addition, any claims of impact from EPA’s proposal should take into consideration the fact that Washington requires only that facilities’ P2 plans cover 95 percent of their total hazardous products used/hazardous wastes generated (Washington, 2005).¹⁰ Pechan generated an estimate of the proportion of the 1996 RY total State waste handled that was reported on Form A. Pechan first attempted to estimate this value by obtaining all available 1995 or 1994 RY Form R data for facilities/chemicals listed on the 1996 RY Form As. However, this approach was abandoned because 1994 or 1995 RY data were available only for 56 out of the 95 Form As. Ultimately,

⁹ Pechan was unable to get a response from the State to the question whether they allow program participants that switch to Form A to continue in their program, or if the State allows only Form R filers to participate.

¹⁰ “Processes subject to planning include all processes that use products containing hazardous substances (hazardous products) or generate hazardous wastes up to a 95% threshold” (Washington, 2005 at page 21).

Pechan estimated the proportion by applying a conservative assumption that each 1996 Form A is associated with the maximum Form A ARA (i.e., 500 pounds). Pechan estimates that Form As accounted for a maximum of 0.025 percent of the total ARA in Washington in 1996.¹¹

Pechan also estimated the proportion of total 2003 RY waste quantity that would not be reported under EPA's proposal. First, Pechan identified the 2003 RY Form Rs that are currently not eligible for Form A reporting that become eligible under the proposal. This step confirmed the statement attributed to Idell Hansen that 15 percent of current Form R reporting facilities would no longer report on Form R under the proposal. In addition, Pechan estimates that EPA's non-PBT Form A proposal will result in a reduction in 2003 RY non-PBT ARA (sum of 8.1-8.7) of only 0.18 percent. Similarly, EPA's PBT Form A proposal is expected to result in a total PRA (sum of 8.2-8.8) that is only 0.25 percent less than reported in the 2003 TRI. Pechan also conducted comparisons of pre- and post-EPA proposal waste quantity values for total waste (EPA proposal reduces total waste quantity by 0.31 percent) and for releases (EPA proposal reduces 8.1 release quantity by 0.64 percent). The analyses all indicate that current and potential future Form A reporting involves quantities that are significantly less than the State's 5 percent hazardous waste quantity P2 plan exemption.

2. Arizona Department of Environmental Quality

The following is the OMB Watch's description of how Arizona uses TRI data to identify facilities to target for HAP emission reductions.

“TRI Data Used to Reduce Hazardous Air Pollutants

Phoenix, Arizona -- The Arizona Department of Environmental Quality (ADEQ) also uses the TRI to address Hazardous Air Pollutants (HAPs) emissions. The ADEQ used TRI data to identify facilities that had significantly increased their HAP releases from 2002 to 2003. The agency works with these facilities to reduce their air emissions. Alternate-year reporting would have missed these pollution increases.” (Moulton, 2006 at pg. 19).

In contacting ADEQ for clarification on this data use, Pechan learned that Arizona had used 2002 TRI data to identify the industry sectors to which the State's recent HAP regulation would apply.¹² The remainder of this section summarizes how ADEQ used TRI data to support HAP regulation development, and provides Pechan's analysis of how EPA's proposal would have affected its ability to use these data for this purpose.

For most HAP emission sources, Arizona used Form R release data to model the air quality impacts of facility air emissions -- Arizona specifically modeled facilities that either had 2002 annual emissions of a single HAP of at least 1 ton or total facility HAP emissions of at least 2.5

¹¹ Pechan also developed a separate percentage estimate that included all 1996 Form Rs that were Form A eligible based on the 500 pound ARA threshold criterion. When these records are added to the estimated ARA for Form A filers in 1996, Pechan estimates a maximum of 0.032 percent of the total State's 1996 RY ARA could have been reported via Form A.

¹² Despite the description in the comment letter, the ADEQ contact noted that he did not believe that ADEQ had conducted any comparisons of 2002 with 2003 TRI data (Burr, 2006).

tons. After modeling the effect of these facilities' emissions on air quality, Arizona compared the modeled air pollutant concentrations against both acute and chronic health based ambient air criteria. If the HAP emissions modeling for at least one facility in a given SIC code indicated that predicted ambient air concentrations are at least 20 percent greater than either of these criteria for one or more pollutants, then Arizona identified that SIC code for regulation.

On March 15, 2006, Arizona promulgated a rule creating a program to regulate HAP emissions for facilities categorized in 23 SIC codes (Arizona, 2006). Under the State's program, all newly constructed major sources, or new minor sources belonging to a designated category, are subject to the State's HAP program; modifications to existing sources that increase HAP emissions by more than a *de minimis* amount, are also subject to the program. According to the statute, the owner or operator of an affected source must obtain a new permit or a significant permit revision that includes either a proposal for Hazardous Air Pollutant Reasonably Available Control Technology (HAPRACT) for minor sources, or Arizona Maximum Achievable Control Technology (AZMACT) for major sources. Any affected source also has the option of conducting a scientifically sound risk management analysis as part of their permit application to show that the imposition of control technology, in their case, is unnecessary to avoid adverse effects to human health or the environment.

To evaluate the impact of EPA's proposal on Arizona's ability to target SIC codes for regulation, Pechan conducted an analysis to determine whether the proposed Form A eligibility thresholds would have resulted in loss of Form R information that was used to identify the SIC codes for regulation. The first step in this analysis was to compile 2002 reporting year (RY) Form R information for the facilities/chemicals that were modeled for the 23 SIC codes of interest. Pechan then determined if either the specific Form R that Arizona identified as having a potential health impact would become Form A eligible or else that the loss of Form R reporting for some of the chemicals at a given facility would result in facility-level emissions below the 2.5 ton per year threshold. In either case, EPA's proposal would result in the loss of TRI information that may have been used in Arizona's modeling. Based on the analysis, Pechan determined that EPA's proposal would not have affected the State's modeling for 22 of the 23 SIC codes that have been targeted for regulation. However, EPA's proposal would result in the loss of the Form R information for a single facility (Ashland Distribution Company) that was used to identify SIC code 5169 for potential regulation.

Additional analysis indicates that there are two major reasons why this SIC code could ultimately be excluded from the State's program. The first reflects the likelihood that implementation of the State's program will result in no SIC code 5169 facilities being required to prepare a permit revision. There are two reasons supporting this probability: (1) existing sources are not expected to have modifications that result in emission increases exceeding *de minimis* thresholds; and (2) any new SIC code 5169 facilities that come on-line are not anticipated to have emissions that exceed the thresholds required for preparing a minor source permit revision.

Pechan asserts that modifications to existing sources are likely to result in emission changes that are below HAP program *de minimis* thresholds. For methylene chloride, which is the only HAP that Arizona identifies in SIC code 5169 with a potential for health impacts, the *de minimis* emission threshold is defined as low as 20 pounds per hour (Weston, 2005). Based on EPA's

default temporal activity profile for organic chemical storage/transport, it is assumed that emissions activity for methylene chloride distribution occurs 24 hours a day, 365 days per year (Stella, 2002). The EPA default profile also indicates peak hourly activity that is 50 percent higher than average hourly activity.¹³ Therefore, Pechan assumes that peak emissions of 20 pounds per hour equate to average annual hourly emissions of 13 pounds per hour. When multiplied by EPA's assumption of 8,760 hours per year, 57 tons is the annual equivalent to the facility's hourly *de minimis* emissions for this HAP (i.e., 13 pounds per hour x 8,760 hours = 113,880 pounds / 2,000 pounds per ton = 57 tons). Because this represents more than 50 times the emissions level for the highest methylene chloride emitting SIC code 5169 facility in Arizona, it is highly unlikely that a modification of an existing SIC code 5169 facility will result in an exceedance of the *de minimis* methylene chloride threshold.

In addition, Pechan believes that new SIC code 5169 facility HAP emissions are likely to be below Arizona's HAP program eligibility thresholds. This assertion is based on the fact that there are only two current SIC code 5169 facilities with 2002 HAP emissions that would be affected by HAP program requirements if they were new facilities.¹⁴ Furthermore, each of these facilities have HAP emissions that barely exceed the new facility HAP program thresholds and 2002 TRI data for SIC code 5169 indicate that these facilities emit HAPs at levels that are within 10 percent of the highest emitting facilities nationwide. When coupled with the emission reduction potential of a recent EPA MACT standard that affects SIC code 5169 facilities,¹⁵ Pechan concludes that any new Arizona SIC code 5169 facilities are unlikely to emit HAPs above new facility program eligibility thresholds.

The second major argument why SIC code 5169 may ultimately be excluded from the State's program is that there has been a long-standing debate over the TRI reporting requirement for this SIC code. The National Association of Chemical Distributors (NACD) has argued that EPA erred in 1996 when it added this SIC code to the TRI reporting universe. In particular, NACD refutes statements made in the 1996 proposed rule that explain EPA's rationale for including this SIC code. The 1996 rule states that the "activities of this industry—handling of chemicals—and its involvement with TRI chemicals are very similar to those of the manufacturing universe already subject to TRI reporting," and will "result in a significant amount of new toxic chemical release information to the public" (61 FR 33588, 1996 at pg 33613).

As indicated in Table 6, chemical manufacturing releases are consistently more than 500 times greater than chemical distribution releases. In addition, an NACD analysis of the historical data concluded that the majority of releases attributed to chemical distribution are actually from facilities that are more properly characterized in other SIC codes such as chemical

¹³ The EPA temporal profiles also indicate an even distribution of activity for each day of the week and each month of the year.

¹⁴ New facilities with emissions of one or more HAPs of at least 1 ton per year, and/or new facilities with total HAP emissions of at least 2.5 tons per year are subject to Arizona's new HAP program requirements. The two current facilities that emit at levels above these thresholds are not subject to program requirements.

¹⁵ The Organic Liquid Distribution MACT requirements include: applying control devices to storage tanks and transfer racks to meet designated emission reduction standards; implementing a leak detection and repair program for pumps, valves and sampling connections; vapor tightness certification for cargo tanks and tank cars; and work practice standards (69 FR 5038, 2004).

manufacturing.¹⁶ Therefore, NACD has advocated for removal of TRI reporting for SIC code 5169 facilities based on the assertion that EPA’s rationale for such reporting is unfounded.

Table 6. Comparison of TRI Release Data for Chemical Manufacturers and Chemical Distributors

	1998	1999	2000	2001	2002	2003
Chemical Manufacturers	743.0	722.9	697.0	581.2	573.2	554.4
Chemical Distributors	1.5	2.0	1.5	1.5	1.3	1.3

Source: NACD, 2005; values are in millions of pounds.

3. Delaware Department of Natural Resources and Environmental Control (DNREC)

The State of Delaware’s DNREC used TRI data to identify a dioxin disposal problem at a DuPont facility and to ultimately negotiate plant dioxin reductions of 90 percent by 2007 (Frank, 2006 at pg. 4). EPA’s proposal would have no effect on this data use because dioxins are excluded from Form A reporting eligibility.

4. New York State Department of Environmental Conservation

Using 1990 TRI data, the State of New York identified 400 facilities that generate 95 percent of the State’s toxic chemicals for the purpose of targeting inspection, enforcement, monitoring, and pollution prevention planning efforts (Frank, 2006 at pg. 4).¹⁷ Pechan conducted research into New York’s current approach for prioritizing facilities for pollution prevention planning. Current guidance indicates that the facility selection process has been expanded to include all of the following criteria:

- Multi-program regulatory activities;
- Quantities of toxics generated and/or released;
- Environmental and public health impacts;
- Compliance history/enforcement issues;
- Known/potential remediate problems;
- Likelihood of success/potential for reductions;
- Clean Air Act requirements;
- Mandates/internal concerns;
- External concerns;

¹⁶ In particular, an NACD report states the following with respect to this issue: “EPA should establish a clearer definition of those facilities that are required to report under the chemical distribution industry code, SIC code 5169. NACD believes that EPA should include only those facilities where the storage, repackaging, and handling of chemicals for wholesale distribution are its primary functions. On-site or off-site reclamation is not a typical chemical wholesale distribution operation. EPA’s own data show that the overwhelming majority of SIC Code 5169 facilities that report releases do not perform reclamation. The ones that do are typically very limited in number (between 2 and 3 facilities each year) and without exception report very high amounts of toxic releases. NACD therefore believes that their inclusion within SIC Code 5169 skews the data on the industry’s collective performance, which offers decreased public benefit” (NACD, 2005 at pg. 14).

¹⁷ New York later updated the facility list using 1996 TRI data.

- Corporate attitude/commitment;
- Department resources; and
- Commercial facility (Werner, 2001).

With respect to the quantities of toxics generated and/or released criterion, the State guidance states that “consideration must be given to the quantities of ... Toxics Release Inventory (TRI) chemicals released to all media.” Because the results of an analysis that uses the 1990 list of facilities and TRI data may be unrepresentative of the impacts on the current State program, Pechan analyzed the effect of EPA’s proposal by computing the percentage of New York 2003 reporting year releases that would no longer be reported to the TRI.¹⁸

Table 7 presents the results of the analysis, which indicate that less than 1 percent of total releases will become newly Form A eligible under EPA’s proposal. Pechan notes that TRI releases are only 1 of the 12 criteria that New York uses to identify pollution prevention program facilities.

Table 7. New York Impacts of EPA's Proposed TRI Reform Regulations

2003 Reporting Year Release Quantities (pounds)	% Reduction		% Reduction	
	Current Form A Eligible	Newly Form A Eligible	from Current Form A Eligible	from Newly Form A Eligible
Total Releases				
<i>New York</i>				
47,927,191	27,854	437,745	0.06%	0.91%

* Reporting year release quantities that are currently Form A eligible based on the 500 pound ARA threshold.

5. State of Maine Department of Environmental Protection

In comments submitted to the docket for EPA’s proposed rulemaking, Maine’s Department of Environmental Protection asserts that “the proposed changes would result in Maine losing almost 70% of our TRI inventory; in effect, we will lose the ability to track 70% of our Toxic Release data” (Littell, 2005 at pg. 1). Maine’s comments also note that “because Maine has a Toxics Reduction Program centered on public accountability, this proposal would significantly curtail what the public can review” (Littell, 2005 at pg. 1). Pechan’s research identified that Maine’s Toxics Use and Hazardous Waste Reduction Law requires participation by all facilities that are required to report under EPCRA Section 313 if; (a) they have 10 or more full-time employees; (b) they are categorized in certain specified SIC codes; and (c) they manufacture, process, or otherwise use a toxic chemical in excess of EPCRA threshold quantities, which are 25,000 pounds per year for quantities of toxic chemicals “manufactured” or “processed” and 10,000 pounds per year for toxic chemicals “otherwise used” (Maine, 2006). The State’s guidance goes on to clarify that “both Form R and Form A filers are subject to the State of Maine Toxics Law.” Therefore, EPA’s proposal would not appear to result in any direct effects on Maine’s Toxics Reduction Program.

¹⁸ This analysis assumes that all newly eligible facilities choose to use Form A.

Pechan also performed an analysis to determine the percentage of total toxic chemical releases that would no longer be reported on Form R under EPA’s proposal. Table 8 displays the results of this analysis, which indicate that less than 0.7 percent of total releases would become newly eligible for Form A reporting.

Table 8. Maine Impacts of EPA's Proposed TRI Reform Regulations

2003 Reporting Year Release Quantities (pounds)			% Reduction from Current Form A Eligible	% Reduction from Newly Form A Eligible
Total Releases	Current Form A Eligible*	Newly Form A Eligible		
<i>Maine</i>				
9,341,698	2,736	63,111	0.03%	0.68%

* Reporting year release quantities that are currently Form A eligible based on the 500 pound ARA threshold.

6. New Jersey Firemen’s Mutual Benevolent Association

The New Jersey Firemen’s Mutual Benevolent Association has stated that firefighters use the TRI “to prepare for accidents or fires at chemical plants, refineries, and other sites” (Frank, 2006 at pg. 4). Although it does provide other chemical information, the focus of the TRI program (required by Section 313 of EPCRA) is on releases, hence the name, Toxics Release Inventory. The TRI reporting requirements are targeted at certain sectors and facilities that meet specific reporting thresholds. For the 2003 RY, 23,811 facilities reported to EPA’s TRI Program (EPA, 2006b).

Section 311 of EPCRA requires facilities that have material safety data sheet (MSDSs) for chemicals held above certain quantities to submit either copies of their MSDSs or a list of MSDS chemicals to their designated State Emergency Response Commission (SERC), Local Emergency Planning Committee (LEPC), and local fire department. Under EPCRA Section 312, these facilities must submit annual chemical inventory reports to these entities. These reports are required to contain the following information:

- the chemical name or the common name as indicated on the MSDS;
- an estimate (in ranges) of the maximum amount of the chemical present at any time during the preceding calendar year and the average daily amount;
- a brief description of the manner of storage of the chemical; and
- the location of the chemical at the facility.

EPA has estimated that about 550,000 facilities are covered by the EPCRA Section 311/312 requirements (EPA, 2000).

It is not clear why New Jersey firefighters would use TRI data for emergency planning when an entirely different program (EPCRA Section 311/312) was developed to provide firefighters and

others with data for this planning. This is especially true given the much smaller scope of the TRI program relative to the Section 311/312 emergency planning program (24,000 facilities reporting under TRI versus 550,000 facilities reporting under 311/312). Data providing the quantity and location of all hazardous substances is most directly relevant to emergency planning, as designed by Congress in 311/312. In contrast, knowledge about the release quantities of a small subset of the hazardous chemicals and no location information is much less useful. One possible explanation for the firefighter interest in TRI data is that EPA compiles TRI data in a searchable on-line national database (TRI Explorer), but does not provide a similar database for the 311/312 data. However, EPA has also developed the Computer-Aided Management of Emergency Operations (CAMEO*fm*) software to support access to emergency planning data. EPA has also developed Tier2 Submit 2005 to facilitate electronic data reporting under 311/312. Tier2 Submit provides annual chemical inventory data export capability into CAMEO*fm*. Twenty-five states are accepting Tier2 Submit information from facilities for the 2005 reporting year (New Jersey is not participating).

Given the fact that EPCRA 312 annual chemical inventory reporting was designed to support emergency planning for firefighters and that this reporting is of considerably greater scope than the TRI reporting program, it is not reasonable to assert that reductions in TRI Form R reporting would impact New Jersey firefighters' ability to plan for emergency response to chemical incidents. In addition, as noted in the analyses of other TRI data use examples, the information that would no longer be reported on Form R under EPA's proposal represents a very small percentage of the total currently reported information.

7. Texas Natural Resource Conservation Commission (TNRCC)¹⁹

In 1992, TNRCC developed "Clean Industries 2000" under the Clean Texas program. The Clean Industries 2000 program was a voluntary pollution prevention program in which members pledged to reduce hazardous waste generation and/or TRI chemical releases by 50 percent by year 2000 (Davis, 2006 at pg. 5). The reduction target was measured relative to 1987 levels. Pechan was unable to analyze the effect of EPA's proposal on the Clean Industries 2000 program because it involved use of past TRI data. As described below, however, Pechan used 2003 TRI data to analyze how a hypothetical similar Texas program would be affected by EPA's proposal.

Based on Form R reports, Texas had TRI releases of more than 274 million pounds in 2003. Assuming a 50 percent reduction target for all TRI releases, 137 million pounds would represent the maximum potential reductions from 2003 levels. Pechan then computed the TRI releases associated with Form Rs that are already eligible for Form A reporting based on the 500 pound non-PBT ARA threshold (approximately 91,000 pounds), and computed a maximum reduction of about 45,500 pounds associated with these forms. Pechan also computed similar values for the Texas Form Rs that would be newly Form A eligible under EPA's proposal. As indicated by Table 9, the maximum potential reductions from these forms are approximately 700,000 pounds, or 0.5 percent of the total baseline target reduction of 137 million pounds.

¹⁹ TNRCC was succeeded by the Texas Commission on Environmental Quality.

Table 9. Impacts of EPA's Proposed TRI Reform Regulations on Hypothetical Texas Clean Industries 2003 Program

Total Releases	Release Quantity Reduction Targets (pounds)		% Reduction from Current Form A Eligible	% Reduction from Newly Form A Eligible
	Current Form A Eligible	Newly Form A Eligible		
<i>Texas</i>				
137,010,544	45,529	691,828	0.03%	0.50%

* Reductions associated with release quantities that are currently Form A eligible based on the 500 pound ARA threshold.

8. EPA Office of Health Research

The Attorneys General comments summarize a TRI data use example of an EPA study of differences in chemical releases by ethnicity and income (Frank, 2006 at pp. 5-6). The comments cite the EPA's 2003 TRI Data Use Report as their source for information on this data use (EPA, 2003). The 2003 EPA report states the following:

Researchers from EPA's Office of Health Research published a study of national and regional differences in county-level TRI chemical releases to air according to the ethnicity or race and household income of the populations. Using the "Population Emissions Index," a population-weighted average release for each county, the study found that all minority groups except Native Americans tend to live in counties where levels of TRI chemical releases to air are higher. The data also suggest that household incomes tend to be higher in counties with higher TRI chemical releases to air (EPA, 2003 at pg. 13).

This report lists the reference to this study as the 1997 report titled "Economic Analysis of the Final Rule to Add Certain Industry Groups to EPCRA Section 313." Pechan's review of this study indicates that it determined that both existing and new reporters to the TRI (i.e., facilities required to report for the first time under EPA's 1997 rule) are located in areas with lower incomes and areas with significant minority populations. However, contrary to the description in the 2003 Data Use Report, this study did not analyze release data, but rather facility locations.

Pechan did not perform an evaluation of the impact of EPA's proposal on this example because the data use cited in the 1997 report (1) does not match the description in the 2003 EPA report; and (2) relies on a metric (TRI facility location) that is not expected to be an accurate predictor of health risk impacts relative to the metric described in the Attorneys General comments (i.e., air releases).

F. NATIONAL USE OF TRI DATA

Pechan analyzed the impact of EPA's proposal on three examples where TRI data have been used to support national environmental improvement and tax programs.

1. Internal Revenue Service (IRS)

The Attorneys General comments summarize a TRI data use example where the IRS has used TRI data to enforce a tax on chlorofluorocarbons (Frank, 2006 at pg. 6). According to the 1995 EPA TRI Data Use report cited in the Attorneys General comments, the IRS has used TRI data to enforce a tax on multiple ozone depleting substances (ODS), such as chlorofluorocarbons (EPA, 1995). The excise tax, which is designed to discourage use of these substances, applies to domestic sales and stocks of ODS, as well as imported products that contain ODS. Exemptions are made for recycled chemicals, exports, and chemicals used as feedstocks or in manufacturing rigid form insulation. The tax, which was first levied in 1990, increases each year.

As best as could be determined, the IRS reviews the TRI to identify users of taxed chemicals, and not to verify tax amounts (taxes are levied not on releases but on amounts used, imported, and held in inventory). The IRS' use of TRI data would not be affected by EPA's proposal because both Form R and Form A identify the name of the chemicals used by TRI reporters.

2. American Chemistry Council

The American Chemistry Council (ACC), the leading trade organization for the chemical manufacturing industry, provided the following information with respect to use of TRI data in its Responsible Care program: "One way to measure our achievements is to track emissions to the environment....Tracking TRI emissions over time provides an important look at performance trends. TRI data are widely recognized as a key measure of environmental performance. Since 1988, core Responsible Care companies have reduced emissions of core TRI chemicals by 75 percent" (Davis, 2006 at pg. 5). Pechan contacted ACC to obtain information to assess the impact of EPA's proposal on this data use. Although ACC was not willing to share the TRI facility IDs for Responsible Care program participants to facilitate a direct evaluation of new Form A eligibility, ACC asserts that the proposal would not materially affect program reporting (Walls, 2006).²⁰

To provide some quantitative measure of potential impact, Pechan conducted an analysis of the reduction in total release quantities associated with increased Form A eligibility for Chemical Manufacturing sector records in the 2002 TRI.²¹ Table 10 displays the results of this analysis, which indicate that EPA's proposal results in new Form A eligibility for only 0.67 percent of total Chemical Manufacturing sector releases.

²⁰ ACC also stated their belief that Responsible Care program participants will continue to use Form R to report all required chemicals if EPA's proposal increases Form A eligibility for only a small percentage of their total reports (Walls, 2006).

²¹ Chemical Manufacturing sector records defined as records with '28xx' as the primary Standard Industrial Classification (SIC) code; Pechan estimates that Responsible Care program facilities accounted for approximately 13 percent of total Chemical Manufacturing sector releases in reporting year 2002.

Table 10. Impacts of EPA's Proposed TRI Reform Regulations on Chemical Manufacturing Sector Form Rs

2002 Reporting Year Release Quantities (pounds)			% Reduction from Current Form A Eligible	% Reduction from Newly Form A Eligible
Total Releases	Current Form A Eligible*	Newly Form A Eligible		
<i>SIC Code 28</i>				
578,098,640	254,833	3,853,795	0.04%	0.67%

* Reporting year release quantities that are currently Form A eligible based on the 500 pound ARA threshold.

3. TRI HAP Data in Ambient Air Quality Modeling

Comments from the National Environmental Trust (NET) discuss the possibility that a reduction in HAP release data could have a significant impact on ambient air quality modeling. The NET asserts that 28 percent of nationwide HAP-related forms “would contain no data under the proposed certification statement changes” (Natan, 2006 at pg. 3). The NET’s comments do not describe how this estimate was derived. To independently evaluate these claims, Pechan analyzed 2003 TRI data to evaluate the national percentage of HAP Form Rs and HAP releases that would no longer be reported under EPA’s proposal. Pechan linked EPA’s list of HAPs (Huntley, 2005) to the chemicals in the 2003 TRI to identify the existence of more 40,000 HAP Form Rs. Table 11 displays the results of the analysis of EPA’s TRI reform proposal, which indicate that 23 percent of HAP-related Form Rs, but only 0.5 percent of HAP releases would become newly Form A eligible. This value does not represent a significant impact on the ability to perform air quality modeling and is certainly less than the uncertainty inherent in such modeling.

Table 11. Impacts of EPA's Proposed TRI Reform Regulations on National HAP Releases

2003 Reporting Year HAP Release Quantities (pounds)			% Reduction from Current Form A Eligible	% Reduction from Newly Form A Eligible
Total HAP Releases	Current Form A Eligible*	Newly Form A Eligible		
<i>National</i>				
1,184,342,210	565,678	5,958,332	0.05%	0.50%

* Reporting year release quantities that are currently Form A eligible based on the 500 pound ARA threshold.

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