Toxics Release Inventory

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Several states and the federal government have in place various "right-to-know" laws. Based on the idea that the public has a right to know about chemical risks they face, these programs require that private sector entities report chemicals that they release, use, and sell. Some environmentalists suggest that supporting these regulations gives the public enough information to demand lower-risk facilities that pollute less. Although these laws seem straightforward and reasonable, an analysis of one key federal program—the Toxics Release Inventory (TRI)—demonstrates serious flaws.

Statutory Scheme

TRI requires that firms[1] that have 10 or more employees and annually manufacture or process more than 25,000 pounds (or otherwise use 10,000 pounds) of a TRI-listed chemical[2] report the release or transfer of such chemicals. The law currently covers about 650 chemicals, and the U.S. Environmental Protection Agency (EPA) has the authority to add and delete chemicals. Releases include emissions, discharges into bodies of water, releases to land, materials recycled, and disposals into underground injection wells. Transfers include movement of chemicals

1. For a list of regulated industries, see http://www.epa.gov/tri/report/siccode.htm.

2. For the lists of chemicals regulated under TRI, see http://www.epa.gov/tri/chemical/index.htm.

off site for recycling, incineration, treatment (such as in a water treatment facility), or landfill disposal.

Regulatory and Legislative Activity

In October 2005, EPA proposed a couple of rules to reform the TRI and to reduce its regulatory burden. One proposal would change the frequency of TRI reporting, possibility shifting to biannual rather than annual reporting.[3] Another would allow more firms to report on a shorter form than under existing regulations.[4] Currently, the EPA allows expedited reporting on what it calls "Form A" for firms that handle fewer than 500 pounds of TRI-listed chemicals. The goal is to reduce the regulatory burden for firms that "release" low levels of TRI chemicals. The EPA proposed allowing all firms that produce fewer than 5,000 pounds to use Form A, hoping to lift the TRI regulatory burden for more firms. According to the EPA, this change would save firms 165,000 hours of paperwork preparation time and still ensure that 99 percent of TRI releases would be reported on the longer form.[5]

These changes were designed to save firms—mostly small businesses—time and money without significantly changing the quality of data collected under TRI. EPA finalized the rule in December 2006, allowing firms to apply it to their emission reports covering that year. EPA released the 2006 data in February 2008, noting that TRI indicates that emissions have gone down in most places, yet environmentalists questioned those findings because they maintain that the rule limited reporting.[6] In addition, some members of Congress have proposed legislation to overturn the rule, and in November 2007, twelve state attorney generals commenced a lawsuit challenging the rule.

Despite all the political hype about the EPA rule and TRI reporting, the law is actually not very informative and its benefit are questionable as documented in subsequent sections of this brief.

TRI's Regulatory Burden

TRI is often marketed as a low-cost program. But the burden placed on the private sector is significant. For example, electric utilities have to report on 30 chemicals—with a separate TRI form for each chemical and each plant.[7] Estimated total costs of the TRI program range up to nearly a billion dollars a year. The estimated costs of all EPA "right-to-know" regulations from TRI, and various other programs, range up to $3.4 billion.[8]

Individual examples indicate that the regulatory burden is unreasonably high for some

3. *Federal Register* 70, no. 191 (October 4, 2005): 57871–72.

4. *Federal Register* 70, no. 191 (October 4, 2005): 57822–47.

5. EPA, "Toxic Release Inventory Burden Reduction—Fact Sheet: Reducing Burden While Ensuring Public Access to High Quality Information," EPA, Washington, DC, 2005, http://www.epa.gov/tri/tridata/modrule/phase2/Fact_Sheet.pdf

6. Katherine Boyle, "Toxic Emissions Declined in 2006," *Greenwire*, February 22, 2008.

7. J. Winston Porter, *Utilities and TRI: A Primer on Electric Utility Companies and EPA's Toxics Release Inventory* (Washington, DC: Edison Electric Institute, March 1999), 2, http://www.eei.org/industry_issues/environment/air/Toxics_Release_Inventory/primer.pdf.

8. Alexander Volokh, Kenneth Green, and Lynn Scarlett, "Environmental Information: The Toxics Release Inventory, Stakeholder Participation, and the Right to Know, Part 1 of 2: Shortcomings of the Current Right-to-Know Structure," Policy Study 246, Reason Foundation, Los Angeles, 1998.

businesses. Nancy Klinefelter, who owns a ceramic decorating business with 15 employees, detailed to a congressional committee the impacts of the then proposed TRI rule on lead. Her firm's lead "releases" included the lead paint used on the ceramics. She noted that lead paint applied to ceramics was actually a use, not a release, but she has to report it anyway. She has to track how much lead paint her firm uses on a daily basis—by color, because each color contains a different level of lead. Then she has to calculate how much lead is contained in those paints. She noted that the EPA estimated that meeting the rule would require 124 hours for tracking lead usage. But the EPA estimates still represent a "gross underestimate," she explained. Her story clearly illustrates the insanity of many TRI regulations. Klinefelter noted:

> I have personally spent 95 hours trying to understand the TRI forms and requirements … and I am still nowhere near the point where I can complete the forms with confidence. In addition, I have spent 60 hours or more reconstructing retroactive color usage data [the EPA required firms to calculate usage for the three and a half months before it finalized the rule]. We are now spending about 4 to 5 hours per week tracking lead usage to enable us to have confidence in our 2002 TRI filing.[9]

The Problematic Nature of TRI Data

Among TRI's most serious flaws is that it creates the illusion that the mere release of a chemical is equivalent to risk, when, in fact, low-level releases and subsequent low-level exposures likely pose no significant risks.[10] Some suggest that the EPA could address TRI's failure to provide meaningful information on risk. But devising a risk-based system is practically impossible and, given the investment required, not desirable. Building such a system would require billions of dollars in expenditures—billions that would be diverted from other wealth-creating, quality-of-life-improving uses. Despite this very high quality-of-life cost, this program would likely return few benefits because chemical risks overall are relatively low.[11] It is unfortunate that Congress chose to inhibit these modest changes to the program. TRI had proven to be a needless bureaucratic burden affecting many small businesses that have difficulties meeting the costs.

Other problems prevent TRI data from providing meaningful information:

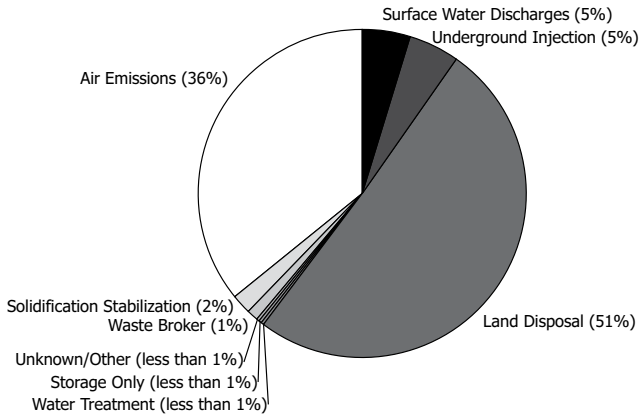
- Safe disposal of waste is counted as a "release"—conjuring up images of dumping sewage into rivers or releasing pollutants into the air—even if the disposal method is virtually harmless and far from most people's intuitive understanding of what constitutes a release. For example, TRI counts underground injection of liquid wastes as a "release into the environment" (see figure 1). Yet underground injection is one of the safest means to dispose of liquid waste: the waste is injected 4,000 to 5,000 feet below Earth's surface, far from places where it could damage the environment and far from underground drinking water sources.

9. Nancy Klinefelter, "The Lead TRI Rule: Costs, Compliance, and Science," prepared remarks before the House Committee on Small Business, June 13, 2002.

10. For a discussion of low-level exposures and chemical risks, see the policy brief titled "The True Causes of Cancer."

11. See the policy brief titled "The True Causes of Cancer."

Figure 1. TRI "Releases," 2003



Source: EPA, "TRI Explorer," http://www.epa.gov/triexplorer/.

Because underground injection is called a release, it hikes TRI numbers and has become the target of environmental campaigns. As a result, companies are eliminating underground injection and instead are releasing wastes directly into surface waters—a far less environmentally sound option.[12]

- TRI also counts disposal of waste in safe, sanitary landfills as a "release." Such TRI "releases" into landfills represent most releases (see figure 1), but landfilling offers a safe and effective to manage waste without any significant public exposure to the chemicals.
- TRI counts the reuse of chemicals within a production process as an additional chemical use. This policy wrongly inflates TRI numbers by counting materials every time they go through the recycling process.
- Large firms emit more pollution because of their size and hence are labeled the "biggest polluters."[13]
- Likewise, a firm might emit a large amount of an innocuous substance, but it can still be listed as a bigger polluter than one that emits a small amount of a highly toxic substance.

In addition, TRI and other "right-to-know" programs carry other tradeoffs:

- Right-to-know data may jeopardize some firms' trade secrets by making information available to their competitors. Of particular concern was a 1997 EPA proposed expansion of TRI to include materials accounting—which requires firms to report on the materials they merely use, not just the ones they "release." Moreover, the EPA is posting online numerous databases containing information that it collects under various laws.[14]

Finally, TRI data are often misused by those who want to scare the public about chemical use rather than to educate the public. The following excerpt from a Reason Foundation study details one example:[15]

> In 1994, Wisconsin Citizen Action and Citizens for a Better Environment released a

12. For additional information on underground injection and TRI, call the Ground Water Protection Council at (405) 516-4972.

13. For example, Eastman Kodak has carried the label in New York simply because it happens to be the largest facility in the Northeast; see "Eastman Kodak Again New York's Biggest Polluter 1997 Data Show," Associated Press State and Local Wire, May 14, 1999.

14. U.S. General Accounting Office, "Environmental Information: EPA Could Better Address Concerns about Disseminating Sensitive Business information," GAO/RCED-99-156 (Washington, DC: U.S. General Accounting Office, June 1999).

15. Volokh, Green, and Scarlett, "Environmental Information," 7.

study called *Poisons in our Neighborhoods: Toxic Pollution in Wisconsin*. According to the study, Wisconsin manufacturers "released over 55 million pounds of toxic chemicals into air, water, and land in 1992." The study also used TRI data to compile a list of the "Dirty Dozen" facilities—the 13 (baker's dozen facilities) with the largest combined air, water, and land releases along with discharges for sewage treatment.

Number 2 of the "Dirty Dozen" was Charter Steel of Saukville, Wisconsin, which released 2,645,088 pounds. "This is the amount of toxic waste we are *certain* is being thrown into Wisconsin's environment," said a spokesperson for the environmental groups, indicating that the TRI numbers could be interpreted as a lower bound on pollution. Charter Steel disagreed. The "toxic waste" it was releasing was spent pickle liquor, a byproduct of steel manufacture which contains sulfuric acid. But its pickle liquor was not being "thrown into Wisconsin's environment," as the environmental report suggested. Instead it was being given for free to sewage treatment plants, which used the sulfuric acid in the pickle liquor to help treat their sewage water. The Milwaukee Metropolitan Sewerage District, which gets 6 percent of its pickle liquor from Charter Steel and more pickle liquor from eight other companies, saves $300,000 per year because of Charter Steel's production of this "hazardous waste."

TRI Is Not a Reliable Source for Measuring Pollution Trends

TRI's most often cited achievement is its ability to measure pollution trends. Supporters say that TRI gives firms the incentive to reduce toxic releases and that data reveal that those incentives have indeed led to reductions of these emissions. According to the EPA, total TRI releases have declined 45 percent between 1989 and 1998.[16] At question is whether all declines can be attributed to TRI. Consider some potential problems:

- The U.S. General Accounting Office (GAO), now the Government Accountability Office, notes, "EPA cannot determine whether reported reductions in waste are due to improved environmental performance or to other factors, such as annual changes in companies' production or methods of estimating waste."[17]
- The GAO notes that reductions also may be a result of firms switching to "alternative chemicals that may be as harmful as those for which reductions are reported."[18]
- Because estimating TRI emissions often is a subjective task, some firms may work on how they measure emissions to justify lower numbers each year, to ensure that they can report lower emissions in their annual reports. The GAO notes, "Companies often change their estimation techniques from one year to the next, preventing data users from accurately evaluating the progress of source reduction."[19]
- Rather than measuring environmental performance, TRI can simply measure changes

16. EPA, *1998 Toxics Release Inventory Data and 1995–1998 Trends* (Washington, DC: EPA, May 2000), 2–23.

17. GAO, Toxic Substances: EPA Needs More Reliable Source Reduction Data and Progress Measures," GAO/RECD-94-93 (Washington, DC: GAO, September 1994).

18. Ibid.

19. Ibid.

in the economy. Declining TRI releases can result as facilities close or downsize during a recession. Likewise, if a facility expands, TRI may indicate a "poor performance" as "releases" go up.[20]

- EPA databases, such as TRI, are unreliable. The GAO notes, "In various reviews, we and others have identified persistent concerns about the accuracy of the data in many of EPA's information systems."[21]

However, it is not unreasonable to assume that pollution and materials use have in fact declined. Even with increases in market activity, reduced pollution and more efficient materials use should be expected without TRI. The main reason is that market incentives to cut waste are a stronger influence on materials use because such reductions translate into a financial gain. The Reason Foundation compiled some examples of such market-driven source reduction:[22]

- To construct a skyscraper today, builders need 35 percent less material than they did a few decades ago.
- The amount of aluminum required to produce an aluminum can has declined by 30 percent from 1972 to 1995.
- The average weight of a stove declined by 17 percent between 1972 and 1987.

20. Although TRI data may appear to indicate otherwise, as wealth improves environmental well-being improves. See the policy brief titled "Environmental Trends."

21. Statement of Peter F. Guerrero, director, environmental protection issues, GAO, before the Senate Committee on Environment and Public Works, October 3, 2000, GAO-01-97T.

22. Volokh, Green, and Scarlett, "Environmental Information," 12.

The Right to Terrorism?

A federal "right-to-know" provision in the Clean Air Act demonstrates how far activists will go in their quest to publicize environmental data. Under the federal Clean Air Act, certain industrial facilities must prepare risk management plans that detail accidental release prevention and management plans. These plans include a section outlining the potential impacts (including such things as the number of fatalities and injuries to the surrounding community) that would result under the "worst-case scenario" from a catastrophic accidental chemical release. The law demanded that the EPA make the information available to the public.

When the EPA announced that it would post this information on the Internet, the Federal Bureau of Investigation, the Central Intelligence Agency, and other security organizations pointed out that such posting could give terrorists anonymous access to a searchable database for potential targets—enabling them to select the targets that would produce the highest number of fatalities. When the EPA agreed not to post the information, "right-to-know" advocates said that they would get the information and post it on the Internet themselves.

Congress passed a law in 1999 asking the Department of Justice and the EPA to issue a rule to minimize security risks. The final rule makes the information available in at least 50 "reading rooms" throughout the nation and at state and local emergency planning committee offices, where potential terrorists can view the information and where activists can copy it down and eventually post it online. In any case, the rule allowed the EPA to post the bulk of the risk management plan information online, with offsite consequence analysis summaries included on every facility. After 2001, the EPA pulled the

data from its website, but anti-chemical activists had already downloaded the executive summaries and posted them online, where they remain today. In addition, the EPA continues to provide access to the plans at federal libraries.

Conclusion

The TRI program is simply not equipped to perform the function for which it was designed: TRI data fail to offer meaningful information to the public; TRI's ability to prompt pollution reduction is questionable; and the costs of the program are substantial, particularly for small businesses. Unfortunately, members of Congress have failed to recognize the pitfalls of the program, rejecting even the most modest attempts to ease the program's regulatory burden.

Key Experts

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Recommended Readings

Dudley, Susan. 1999. *Persistent Bioaccumulative Toxic Chemicals—Toxic Release Inventory (TRI)*. RSP Comment 1999-2. Arlington, VA: Mercatus Center. http://www.mercatus.org.

———. 1999. *TRI Reporting of Lead and Lead Compounds*. RSP Comment 1999-13. Arlington, VA: Mercatus Center. http://www.mercatus.org.

Logomasini, Angela. 1999. "The Clean Air Act's Federal Terrorist Assistance Program." *OnPoint* 37, Competitive Enterprise Institute, Washington, DC. http://www.cei.org/utils/printer.cfm?AID=1600.

Volokh, Alexander, Kenneth Green, and Lynn Scarlett. 1998. "Environmental Information: The Toxics Release Inventory, Stakeholder Participation, and the Right to Know, Part 1 of 2: Shortcomings of the Current Right-to-Know Structure. Policy Study 246, Reason Foundation, Los Angeles.

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