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TOXICS RELEASE INVENTORY PETITION FACT SHEET

The Toxics Release Inventory

- The Toxics Release Inventory ("TRI") was established in 1986 as part of the Emergency Planning and Community Right-to-Know Act.[i] TRI reporting serves two critical goals: it encourages informed, community-based environmental decision making and provides an incentive for industrial sectors to reduce or prevent pollution.

- The TRI requires annual reporting of each industrial facility's releases of over 650 TRI-listed toxic chemicals. In brief, the law requires refineries, chemical plants, power stations, and other sources to report toxic releases to the air, land, or water, as well as amounts sent for recycling, treatment or disposal, which result from the manufacture or use of TRI chemicals above certain threshold amounts.[ii]

- These reports are published in the Inventory, are available online, and provide basic information about the environmental "footprint" of facilities.[iii] The online database is searchable by chemical, geography, facility, and company, can be helpful to communities seeking information about local sources of pollution, and have been used by industry to benchmark their environmental performance.

- The statute identifies certain industrial sectors that are required to submit TRI reports, but gave EPA the authority to require reporting from other industries as well.[iv] In 1997, EPA exercised this authority and added several industries to the TRI list of facilities—including resource-extraction sectors such as metal mining and coal mining.[v] In late 2011, EPA proposed to add six additional sectors, including phosphate mining and iron ore mining.[vi]

The Oil and Gas Extraction Industry

- The oil and gas extraction industry is a vast sector that extends from well exploration up until the natural gas is ready for transport to market or oil is ready for transport to a refinery. The sector includes drilling, hydraulic fracturing, and well completions; production and processing, which include gas dehydration and sweetening; and associated components that are used throughout the industry, such as compressors, storage facilities, and "fractionators" that break gas into separate feedstocks.

- The industry and its releases have vastly grown in the last decade with the advent of horizontal hydraulic fracturing (or "fracking"), which allows for the production of more natural gas, uses vastly greater amounts and volumes of chemicals, produces more wastes, and has allowed for a much bigger industry. Natural gas production is now at its highest level since the 1970s, and there are nearly half a million natural gas wells in operation.[vii]

- The industry is uniquely exempted from key provisions of major environmental laws, including the Clean Water Act, the Safe Drinking Water Act, and the Resource Conservation and Recovery Act.[viii]

Toxic Chemicals Used and Released by the Industry

- Each of these industry's processes uses and releases vast amounts of toxic chemicals: well development uses and releases millions of gallons of muds, fluids, and additives to drill and stimulate production; natural gas processing uses a variety of toxic chemicals to remove toxic impurities from the fuel stream and releases these chemicals and byproducts to the air; and regular venting, flaring, and leaking of toxic air emissions are endemic to many processes.

- A congressional report based on voluntary disclosures by the industry found that the industry regularly uses products containing at least forty-five TRI-listed chemicals, the most common of which are: methanol, 2-butoxyethanol, and ethylene glycol.[ix] Other TRI pollutants released when gas is flared or vented to the environment include benzene (a known carcinogen), hydrogen sulfide, and n-hexane.[x]

- EPA estimates that the industry emits at least 127,000 tons of hazardous air pollutants every year, including benzene, xylenes, and hydrogen sulfide.[xi] This is more than any TRI-reporting industry except electric utilities, and equivalent to thirty percent of the total release of hazardous air pollutants reported to the TRI for 2010.[xii]

- EPA has also estimated that the average natural gas wellhead leaks hazardous air pollutants at a rate of 0.671 tons per year.[xiii] Considering that the general TRI reporting threshold is 10,000 pounds per year, a small group of wellheads, along with the emissions of their associated components such as tanks and waste pits, could easily surpass this threshold in air releases alone. This is particularly true when considered with respect to emissions of naphthalene, an EPA-designated "persistent bioaccumulative toxic chemical" that has a threshold of only 100 pounds per year.[xiv]

- EPA investigations in Pavillion, Wyoming, and Dimock, Pennsylvania found TRI-listed chemicals and methane present in groundwater and drinking water wells near natural gas development. In Pavillion, these pollutants included benzene forty-nine times higher than EPA's drinking water standards,[xv] and the Dimock investigation detected multiple TRI-listed chemicals in fifty-seven of fifty-seven wells sampled.[xvi]

The Petition

- Our petition to EPA requests that the industry's facilities be required to report their releases of toxic chemicals to the TRI. The TRI reporting requirement is annual and imposes no substantive limits on the industry, like the Clean Water Act or the Clean Air Act. The TRI simply requires disclosure.

- If EPA grants the petition, each facility would be required to report all toxic chemical releases annually, from all parts of the process: not just the chemicals in the fracking fluids, and not just the hazardous wastes.

- The TRI reports provide a valuable resource to communities, lawmakers, and the companies themselves. If a gas company were to propose a facility next door, a community member could pull up the TRI records and judge whether the facility would be a good neighbor. Or lawmakers could look to the data to assess whether current laws are working or tighter controls are needed.

- Other energy and resource-extraction industries such as power plants and coal mining have long reported to the TRI.[xvii] Even though the TRI does not impose substantive limits, TRI-reporting facilities have voluntarily reduced their toxic releases, as they learn of the extent of their releases and compare their releases to other industry facilities. TRI reporting provides an incentive for more responsible management of toxic chemicals that can be harmful to public health or the environment when they are released.

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[i] 42 U.S.C. § 11023.
[ii] *See* EPA, *Toxic Release Inventory Reporting Forms and Instructions* 44-47 (Reporting Year 2011), *available at* http://www.epa.gov/tri/report/rfi/ry2011rfi_v3.pdf.
[iii] *See* EPA, TRI Release Reports, http://iaspub.epa.gov/triexplorer/tri_release.chemical.
[iv] *See* 42 U.S.C. § 11023(b)(1)(B).
[v] *See* Addition of Facilities in Certain Industry Sectors, 62 Fed. Reg. 23,834 (May 1, 1997).
[vi] *See* EPA, TRI Industry Sectors Expansion, http://exchange.regulations.gov/topic/trisectorsrule/.
[vii] See EIA, *Natural Gas Monthly* 3 Tbl. 1 (Sep. 2011), *available at* http://www.eia.gov/naturalgas/monthly/; EIA, Number of Producing Natural Gas Wells, http://www.eia.gov/dnav/ng/ng_prod_wells_s1_a.htm.
[viii] The Energy Policy Act of 2005 redefined "underground injection" under the Safe Drinking Water Act to exclude "the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations" and redefined "oil and gas exploration and production" under the Clean Water Act to completely exempt all such activities from coverage by the Act's regulation of stormwater pollution. *See* 42 U.S.C. § 300h(d); 33 U.S.C. §§ 1362(6)(B), 1342(l)(2). The Clean Water Act has long exempted materials injected for oil and gas production from the definition of "pollutant." 33 U.S.C. § 1362(6)(B). And amendments to the Resource Conservation and Recovery Act included a temporary exemption of oil and gas field wastes from regulation as hazardous wastes, an exemption that EPA has maintained. *See* 42 U.S.C. § 6921(b)(2); Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes, 53 Fed. Reg. 25,447, 25,456 (July 6, 1988).
[ix] *See* Minority Staff, Committee on Energy and Commerce, U.S. House of Representatives, *Chemicals Used in Hydraulic Fracturing* 6 (April 2011), *available at* http://democrats.energycommerce.house.gov/sites/default/files/documents/Hydraulic%20Fracturing%20Report%204.18.11.pdf.

[x] *See* Memorandum from Heather P. Brown, P.E., EC/R Incorporated, to Bruce Moore, EPA, Re: Composition of Natural Gas for use in the Oil and Natural Gas Sector Rulemaking 8 Tbl. 5, 11 Tbl. 8 (July 28, 2011).

[xi] *See* EPA, *Proposed Amendments to Air Regulations for the Oil and Natural Gas Industry: Fact Sheet* 1-2 (2011) (using EPA estimate that its proposed air rule would reduce HAP emissions by 38,000 tons per year, representing an industry-wide "reduction of nearly 30 percent"), *available at* http://epa.gov/airquality/oilandgas/pdfs/20110728factsheet.pdf.

[xii] EPA, *TRI 2010 National Analysis* B-8 (2011), *available at* http://www.epa.gov/tri/tridata/tri10/nationalanalysis/index.htm.

[xiii] Memorandum from Bradley Nelson & Heather Brown, EC/R Incorporated, to Greg Nizich & Bruce Moore, EPA, Re: Equipment Leak Emission Reduction and Cost Analysis for Well Pads, Gathering and Boosting Stations, and Transmission and Storage Facilities Using Emission and Cost Data from the Uniform Standards 6 Tbl. 2 (April 17, 2012).

[xiv] EPA, TRI PBT Chemical List, http://www.epa.gov/tri/trichemicals/pbt%20chemicals/pbt_chem_list.htm.

[xv] *See* EPA, *Investigation of Groundwater Contamination near Pavillion, Wyoming* 23 (DRAFT, Dec. 2011), http://www.epa.gov/region8/superfund/wy/pavillion/.

[xvi] EPA, Dimock Data Weeks 1-5 (2012), *available at* http://www.epaosc.org/site/doc_list.aspx?site_id=7555 (on file with EIP).

[xvii] *See* EPA, Is My Facility's Six-Digit NAICS Code a TRI-Covered Industry?, http://www.epa.gov/tri/coveredindustries/index.html.