

# **Lethal Loophole:**

**How the 'Clear Skies' Bill Allows  
Oil Refineries and Chemical Plants  
to Emit More Toxic Air Pollutants**

**Rhode Island PIRG**

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## **Acknowledgements**

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## Executive Summary

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The Bush administration has touted its so-called “Clear Skies” bill as a way to clean up power plant emissions of smog-forming nitrogen oxides, soot-forming sulfur dioxide, and toxic mercury. In reality, this bill would allow power plants to pollute more and longer than under the current Clean Air Act. Moreover, a just-discovered provision in the bill weakens current law for other industries as well, including pulp and paper mills, oil refineries, and chemical plants, among others. These industrial units could “opt in” to the bill and “opt out” of existing requirements to reduce their emissions of dozens of toxic air pollutants that cause cancer, birth defects, and other serious health problems.

Specifically, the “Clear Skies” bill (S.131) would exempt as many as 58,000 industrial boilers, commercial and institutional boilers, and process heaters used at industrial facilities such as pulp and paper mills, oil refineries, and chemical plants from a 2004 Environmental Protection Agency (EPA) rule that requires these units to reduce their toxic emissions to the maximum extent possible by 2007. The bill also would exempt these units from other major Clean Air Act requirements, including New Source Review and visibility protections for national parks and wilderness areas. Boilers and process heaters emit a wide variety of toxic air pollutants, depending on the fuel burned, including arsenic, benzene, chromium, hydrogen chloride, and lead, among others.

EPA has performed no analyses to date on the effects of this loophole on public health or the environment. As a first step to understand its potential implications, this report uses EPA data to estimate the number of industrial facilities in Rhode Island that could take advantage of the loophole and their annual emissions of toxic air pollution.

This hidden provision in the “Clear Skies” bill could exempt as many as 34 industrial facilities in Rhode Island from the Clean Air Act’s mandate of deep reductions in toxic pollution. The industries covered by the loophole emitted 153,000 pounds of toxic air pollutants into Rhode Island’s air in 2002. The loophole would allow these industries to continue to emit harmful chemicals into Rhode Island’s air, threatening the health of citizens across the state.

The “Clear Skies” bill has always been a bad deal for Americans and Rhode Islanders who want to breathe clean air; this hidden loophole for many different industries makes it even worse.

## **Background:**

# **Reducing Toxic Pollution from Boilers and Heaters**

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Toxic air pollutants are known or suspected to cause cancer, birth defects, and other serious health problems. The Clean Air Act identifies 188 toxic air pollutants.<sup>1</sup>

In 1990, Congress amended the Clean Air Act to require each and every major industrial source of toxic air pollution to use the “maximum achievable control technology” (MACT) to reduce toxic emissions.<sup>2</sup> In 1992, the Environmental Protection Agency (EPA) identified industrial boilers, commercial and institutional boilers, and process heaters as sources of toxic air pollution, and in 2004 EPA issued MACT standards to substantially reduce toxic pollution from these sources.<sup>3</sup>

Boilers and process heaters are used at facilities such as oil refineries, chemical plants, and pulp and paper mills. These facilities use process heaters to heat raw materials and boilers to burn coal and/or other substances such as wood to create steam, which is used to produce electricity or provide heat.

Boilers and process heaters emit a wide variety of toxic air pollutants, depending on the fuel burned. EPA’s 2004 MACT rule regulates their emissions of arsenic, cadmium, chromium, hydrogen chloride, hydrogen fluoride, lead, manganese, mercury, nickel, and various organic hazardous air pollutants, including benzene, formaldehyde, and acetaldehyde.<sup>4</sup> In terms of the health effects of these pollutants, EPA states:

“Exposure to high levels of these [hazardous air pollutants] is associated with a variety of adverse health effects. These adverse health effects include chronic health disorders (e.g., irritation of the lung, skin, and mucus membranes, effects on the central nervous system, and damage to the kidneys), and acute health disorders (e.g., lung irritation and congestion, alimentary effects such as nausea and vomiting, and effects on the kidney and central nervous system).”<sup>5</sup>

EPA has classified arsenic, benzene, and chromium as “human carcinogens” and acetaldehyde, cadmium, formaldehyde, and lead as “probable human carcinogens.”<sup>6</sup>

EPA’s 2004 rule is intended to reduce emissions of these pollutants from 58,000 industrial boilers, commercial and institutional boilers, and process heaters nationwide by an estimated 58,500 tons per year. Existing industrial boilers and process heaters must comply with the rule no later than September 2007; new industrial boilers and process heaters must comply when they are brought on line. Facilities can comply with the emission limits by altering their work practices in ways that reduce emissions or by installing emissions control technologies, such as fabric filters and scrubbers.<sup>7</sup>

The rule also will reduce emissions of sulfur dioxide (SO<sub>2</sub>) and fine particulate “soot,” which contribute to serious respiratory and cardiovascular diseases and premature death, since the technologies that reduce toxic pollution also reduce SO<sub>2</sub> and soot emissions. Specifically, EPA

estimates that the rule will reduce emissions of SO<sub>2</sub> by 113,000 tons and fine particulate soot by 159,000 tons nationwide each year.<sup>8</sup>

Nationally, EPA estimates that the rule could prevent 2,270 premature deaths, 6,900 hospital visits for respiratory and cardiovascular problems, 173,500 asthma attacks, and 398,700 lost work days each year.<sup>9</sup>

## **The ‘Clear Skies’ Bill: Loopholes for Many Industries**

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Senators James Inhofe and George Voinovich, the leaders of the Environment and Public Works Committee, introduced the Clear Skies Act of 2005 (S.131) in mid-January 2005.<sup>10</sup> As with previous versions, the bill would cap power plant emissions of sulfur dioxide, nitrogen oxides, and mercury but at levels weaker than required under current law. Among its most harmful provisions, the bill would delay until well after 2018 reductions in power plant sulfur dioxide and nitrogen oxide emissions called for in the Clean Air Act by the end of this decade; repeal the Clean Air Act's New Source Review program, which requires the oldest and dirtiest plants to meet modern pollution control standards; force residents of heavily-polluted areas to wait longer for clean air than under current law; and eliminate protections that would require every power plant to reduce mercury to the maximum extent (about 90 percent) by 2008.

Tucked away in S.131 is an additional loophole that would exempt non-utility industrial units from EPA rules to reduce toxic air pollution. As introduced, the loophole applied to four broad categories of industrial facilities – all with stringent MACT standards on the books.<sup>11</sup> On February 22, Senators Inhofe and Voinovich filed an amendment to their bill to limit the exemption to industrial boilers, commercial and institutional boilers, and process heaters, which is by far the largest of the four industrial categories.<sup>12</sup> The committee has not yet considered the amendment.

Industrial units that “opt in” to the bill’s trading system for sulfur dioxide, nitrogen oxides, or mercury pollution would be exempt from EPA’s rules to reduce their toxic emissions, as well as other major Clean Air Act requirements, including New Source Review and visibility protections for national parks and wilderness areas.<sup>13</sup> This means that companies could, for instance, refurbish old plants without installing up-to-date pollution control technology.

EPA has performed no analyses to date on the effects of this loophole on public health or the environment. As a first step to understand its potential implications, this report uses EPA data to estimate the number of industrial facilities in Rhode Island that could take advantage of the loophole and their annual emissions of toxic air pollution. We conservatively limit our analysis to industrial boilers, commercial and institutional boilers, and process heaters, though S.131, as introduced, extends the exemption to other industrial sources as well.

## More Toxic Pollution in Rhode Island

S.131 would exempt as many as 34 industrial facilities in Rhode Island from the Clean Air Act's mandate of deep reductions in toxic pollution.<sup>14</sup> Specifically, the bill would exempt industrial units at these facilities from 2004 EPA rules that require each and every industrial boiler, commercial and institutional boiler, and process heater to reduce its toxic pollution to the maximum extent possible by 2007. The industries covered by the loophole emitted 153,000 pounds<sup>a</sup> of toxic air pollutants into Rhode Island's air in 2002 (see Table I).<sup>15</sup> The loophole would allow these industries to continue to emit harmful chemicals into Rhode Island's air, threatening the health of citizens across the state. See Appendix A for a detailed list of the specific facilities in Rhode Island that could avoid reducing their toxic releases to the state's air.<sup>16</sup>

**Table I. Facilities in Industries that Could Avoid Reducing Their Toxic Pollution Under the 'Clear Skies' Loophole for Boilers and Process Heaters, Rhode Island**

Industry	# of Major Facilities <sup>^</sup>	Emissions of Hazardous Air Pollutants, 2002 (lbs) <sup>°</sup>
Pulp and paper mills (SIC 26)	1	61,571
Chemical manufacturers (SIC 28)	3	34,027
Manufacturers of rubber and miscellaneous plastic products (SIC 30)	5	26,484
Electroplating, plating, polishing, anodizing and coloring (SIC 34)	6	30,461
Manufacturers of motor vehicle parts and accessories (SIC 37)	4	0
Electric, gas and sanitary services (SIC 49)	13	279
Health Services (SIC 80)	1	*
Educational Services (SIC 82)	2	*
<b>Total</b>	<b>34</b>	<b>152,822</b>

<sup>°</sup> This number may include emissions from minor and other facilities not categorized as "major" under the Clean Air Act; this number also reflects emissions of hazardous air pollutants from the entire facility, not just the boilers or process heaters that would be exempt under the "Clear Skies" loophole discussed here. We counted point source emissions of hazardous air pollutants only.

<sup>^</sup> Facilities with more than one Standard Industrial Classification (SIC) code were only counted once. As a result, the total may be less than the sum of each category.

\* These industries are not required to report to the Toxics Release Inventory.

<sup>a</sup> This number reflects emissions of hazardous air pollutants from the entire facility, not just the boilers or process heaters that would be exempt under the "Clear Skies" loophole discussed here.

## Conclusion

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The “Clear Skies” bill has always been a bad deal for Americans and Rhode Islanders who want to breathe clean air; the bill’s hidden loophole for many different industries makes it even worse. The bill eliminates cornerstones of the Clean Air Act that have reduced air pollution from power plants, oil refineries, chemical plants, and other smokestack industries for decades, jeopardizing public health and the environment.

## Methodology

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The national emission standards for hazardous air pollutants for industrial, commercial, and institutional boilers and process heaters applies to major facilities in the following industries: SIC 13 (extractors of crude petroleum and natural gas); SIC 24 (manufacturers of lumber and wood products); SIC 26 (pulp and paper mills); SIC 28 (chemical manufacturers); SIC 29 (petroleum refineries and manufacturers of coal products); SIC 30 (manufacturers of rubber and miscellaneous plastic products); SIC 33 (steel works, blast furnaces); SIC 34 (electroplating, plating, polishing, anodizing, and coloring); SIC 37 (manufacturers of motor vehicle parts and accessories); SIC 49 (electric, gas, and sanitary services); SIC 80 (health services); and SIC 82 (educational services).<sup>17</sup> SIC stands for standard industrial classification.

To determine which and how many facilities could take advantage of the loophole for boilers and process heaters, we used EPA’s Enforcement Compliance and History Online database and looked at major facilities permitted under the Clean Air Act that fall into one of the industries listed above. Facilities with more than one SIC code were only counted once. All data is current as of February 17, 2005.

We generated data on toxic air releases for each industry from EPA’s Toxic Release Inventory, [www.epa.gov/tri](http://www.epa.gov/tri). We included point source emissions of hazardous air pollutants (HAPs) only. Some of these industries are not required to report to TRI, including SIC 13 (extractors of crude petroleum and natural gas), SIC 80 (health services), and SIC 82 (educational services). All data is current as of February 17, 2005.

## Appendix A. Rhode Island Facilities Belonging to Industries that Could Avoid Reducing Their Toxic Pollution Under the ‘Clear Skies’ Loophole for Boilers and Process Heaters

Facility ID	Facility Name	City	State	Industry
4400900016	BLOCK ISLAND POWER	BLOCK ISLAND	RI	Electric, gas and sanitary services (SIC 49)
4400700500	ALGONQUIN GAS TRANSMISSION LINE	BURRILLVILLE	RI	Electric, gas and sanitary services (SIC 49)
4400300002	ARKWRIGHT, INC.	COVENTRY	RI	Chemical manufacturers (SIC 28)
4400790008	CRANSTON WPCF AKA CRANSTON WWT,SSI	CRANSTON	RI	Electric, gas and sanitary services (SIC 49)
4400700071	RI TECHNICAL PLATING	CRANSTON	RI	Electroplating, plating, polishing, anodizing and coloring (SIC 34)
4400300004	STANLEY BOSTITCH	EAST GREENWICH	RI	Electroplating, plating, polishing, anodizing and coloring (SIC 34)
4400700807	EAST PROVIDENCE WWTF	EAST PROVIDENCE	RI	Electric, gas and sanitary services (SIC 49)
4400700545	OCEAN STATE POWER	HARRISVILLE	RI	Electric, gas and sanitary services (SIC 49)
4400700809	RHODE ISLAND RRC (CENTRAL LANDFILL)	JOHNSTON	RI	Electric, gas and sanitary services (SIC 49)
4400700419	RHODE ISLAND STATE ENERGY CENTER	JOHNSTON	RI	Electric, gas and sanitary services (SIC 49)
4400700555	RIDGEWOOD POWER (NORTHEAST LANDFILL JOIN	JOHNSTON	RI	Electric, gas and sanitary services (SIC 49)
4400900007	UNIVERSITY OF RHODE ISLAND	KINGSTON	RI	Educational Services (SIC 82)
4400900014	DEWAL INDUSTRIES,INC	NARRAGANSETT	RI	Manufacturers of rubber and miscellaneous plastic products (SIC 30)
4400500007	NETC	NEWPORT	RI	Educational Services (SIC 82)
4400900050	TORAY PLASTICS AMERICA INC	NORTH KINGSTON	RI	Manufacturers of rubber and miscellaneous plastic products (SIC 30)
4400900020	ELECTRIC BOAT GENDYN	NORTH KINGSTOWN	RI	Manufacturers of motor vehicle parts and accessories (SIC 37)
4400700065	NEPTCO	PAWTUCKET	RI	Pulp and paper mills (SIC 26); Manufacturers of rubber and miscellaneous plastic products (SIC 30)
4400790069	PAWTUCKET POWER ASSOCIATION	PAWTUCKET	RI	Electric, gas and sanitary services (SIC 49)
4400706011	PROVIDENCE METALLIZING	PAWTUCKET	RI	Electroplating, plating, polishing, anodizing and coloring (SIC 34)
4400500019	ALBIN MANUFACTURING INC.	PORTSMOUTH	RI	Manufacturers of motor vehicle parts and accessories (SIC 37)
4400500611	VANGUARD SAILBOATS	PORTSMOUTH	RI	Manufacturers of motor vehicle parts and accessories (SIC 37)
4400709039	NARRAGANSETT BAY COMMISSION	PROVIDENCE	RI	Electric, gas and sanitary services (SIC 49)
4400700039	NARRAGANSETT ELECTRC/MANCHESTER ST.STA.	PROVIDENCE	RI	Electric, gas and sanitary services (SIC 49)
4400701007	QUALITY SPRAYING	PROVIDENCE	RI	Electroplating, plating, polishing, anodizing and coloring (SIC 34)
4400700043	RI HOSPITAL	PROVIDENCE	RI	Health Services (SIC 80)
4400701000	VICTORY POLISHING	PROVIDENCE	RI	Electroplating, plating, polishing, anodizing and coloring (SIC 34)
4400100002	LLOYD MANUFACTURING	WARREN	RI	Manufacturers of rubber and miscellaneous plastic products (SIC 30)
4400100030	TPI COMPOSITES (TILLOTSON/PEARSON)	WARREN	RI	Manufacturers of motor vehicle parts and accessories (SIC 37)
4400300808	WARWICK WWTF	WARWICK	RI	Electric, gas and sanitary services (SIC 49)
4400300022	AMTROL, INC.	WEST WARWICK	RI	Electroplating, plating, polishing, anodizing and coloring (SIC 34)
4400700094	ORIGINAL BRADFORD SOAP WORKS	WEST WARWICK	RI	Chemical manufacturers (SIC 28)
4400700454	SOLUOL CHEMICAL	WEST WARWICK	RI	Chemical manufacturers (SIC 28)
4400709001	TECH INDUSTRIES	WOONSOCKET	RI	Manufacturers of rubber and miscellaneous plastic products (SIC 30)
4400790041	WOONSOCKET WASTEWATER TREATMENT FACILITY	WOONSOCKET	RI	Electric, gas and sanitary services (SIC 49)

Source: U.S. EPA, Enforcement Compliance and History Online, [www.epa.gov/lecho](http://www.epa.gov/lecho), February 17, 2005.

## End Notes

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<sup>1</sup> Clean Air Act § 112(b)(1).

<sup>2</sup> Clean Air Act § 112(d).

<sup>3</sup> 69 Fed. Reg. 55217, 13 September 2004.

<sup>4</sup> 69 Fed. Reg. 55217, 13 September 2004, 55218.

<sup>5</sup> 69 Fed. Reg. 55217, 13 September 2004, 55220.

<sup>6</sup> 69 Fed. Reg. 55217, 13 September 2004, 55220-55221.

<sup>7</sup> 69 Fed. Reg. 55217, 13 September 2004.

<sup>8</sup> EPA, "Regulatory Impact Analysis for the Industrial Boilers and Process Heaters NESHAP," February 2004, 9-2, downloaded from [www.epa.gov/ttn/atw/boiler/boilerpg.html](http://www.epa.gov/ttn/atw/boiler/boilerpg.html), 20 February 2005.

<sup>9</sup> EPA, "Regulatory Impact Analysis for the Industrial Boilers and Process Heaters NESHAP," February 2004, 10-45, downloaded from [www.epa.gov/ttn/atw/boiler/boilerpg.html](http://www.epa.gov/ttn/atw/boiler/boilerpg.html), 20 February 2005.

<sup>10</sup> Environment & Public Works Committee, "Inhofe, Voinovich Introduce Clear Skies Legislation" (press release), 24 January 2005.

<sup>11</sup> S.131 § 407(j)(1)(B).

<sup>12</sup> S.131, Inhofe-Voinovich-Bond Proposed Substitute Amendment (#1).

<sup>13</sup> S.131 § 402(32); § 407(j); § 407(k)(1); and § 407(k)(2).

<sup>14</sup> 69 Fed. Reg. 55217, "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters; Final Rule," September 13, 2004. This rule applies to any industry using a boiler or process heater, including facilities in the following industries: SIC 13 (extractors of crude petroleum and natural gas); SIC 24 (manufacturers of lumber and wood products); SIC 26 (pulp and paper mills); SIC 28 (chemical manufacturers); SIC 29 (petroleum refineries and manufacturers of coal products); SIC 30 (manufacturers of rubber and miscellaneous plastic products); SIC 33 (steel works, blast furnaces); SIC 34 (electroplating, plating, polishing, anodizing, and coloring); SIC 37 (manufacturers of motor vehicle parts and accessories); SIC 49 (electric, gas, and sanitary services); SIC 80 (health services); and SIC 82 (educational services).

<sup>15</sup> U.S. EPA, Toxic Release Inventory, accessed at [www.epa.gov/tri](http://www.epa.gov/tri) on 17 February 2005.

<sup>16</sup> We generated this list using EPA's Enforcement Compliance and History Online database, [www.epa.gov/echo](http://www.epa.gov/echo). We searched for major facilities with air permits within each of the SIC codes noted above.

<sup>17</sup> 69 Fed. Reg. 55217, 13 September 2004.