Mercury on the Horizon

HOW EPA’S POLICIES ALLOW INCREASING MERCURY POLLUTION IN THE WEST

EXECUTIVE SUMMARY

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Mercury on the horizon
Mercury is a toxic heavy metal that threatens the development of fetuses and children and contributes to the risk of heart disease. A senior EPA scientist estimates that 630,000 newborns in the United States each year have unsafe mercury levels in their blood.1 Two recent studies shed light on the potential human health benefits from lowering mercury pollution from U.S. power plants. One study, by the Harvard Center for Risk Analysis, estimated that reducing power plant mercury emissions by about 60% could result in up to 5 billion dollars in annual health benefits due to heart attacks prevented, assuming the cardiovascular effects of mercury observed in males who consume non-fatty fish are experienced by the whole U.S. population.2 A second study, by doctors at the Mount Sinai School of Medicine’s Center for Children's Health and the Environment, estimated the annual health costs of the neurotoxic effects on children from U.S. power plants to be 1.3 billion dollars.3

Coal-fired power plants account for about 41% of mercury pollution in the United States and are the nation's largest human-produced source of mercury. Mercury vented from power plant smokestacks deposits from the atmosphere in precipitation or attached particles and through runoff or deposition can end up in lakes, rivers and the ocean. Toxic methylmercury results from the transformation of mercury by bacteria in the sediments of water bodies. The methylated mercury readily accumulates in the aquatic food chain. Larger, older predator fish usually have the highest methylmercury concentrations. By eating contaminated fish, hundreds of thousands of Americans are exposed to unsafe levels of methylmercury.

The problem of mercury-contaminated fish is widespread, with 45 states issuing advisories in 2003 to limit the consumption of certain fish.4 In the West, 11 of the 13 contiguous states issued mercury fish consumption advisories in 2003 (see

### TABLE ES-1
Active fish consumption advisories in the West (2003)

<table>
<thead>
<tr>
<th>State</th>
<th>Number of fish consumption advisories*</th>
<th>Number of fish consumption advisories due to Hg</th>
<th>Percentage of total fish consumption advisories due to Hg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>14</td>
<td>10</td>
<td>71%</td>
</tr>
<tr>
<td>California</td>
<td>40</td>
<td>23</td>
<td>58%</td>
</tr>
<tr>
<td>Colorado</td>
<td>10</td>
<td>7</td>
<td>70%</td>
</tr>
<tr>
<td>Idaho</td>
<td>8</td>
<td>7</td>
<td>88%</td>
</tr>
<tr>
<td>Montana</td>
<td>29</td>
<td>28</td>
<td>97%</td>
</tr>
<tr>
<td>Nevada</td>
<td>2</td>
<td>2</td>
<td>100%</td>
</tr>
<tr>
<td>New Mexico</td>
<td>26</td>
<td>26</td>
<td>100%</td>
</tr>
<tr>
<td>North Dakota</td>
<td>5</td>
<td>5</td>
<td>100%</td>
</tr>
<tr>
<td>Oregon</td>
<td>16</td>
<td>12</td>
<td>75%</td>
</tr>
<tr>
<td>South Dakota</td>
<td>4</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>Utah**</td>
<td>3</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Washington</td>
<td>16</td>
<td>4</td>
<td>25%</td>
</tr>
<tr>
<td>Wyoming**</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Source: U.S. EPA, National Listing of Fish Advisories
*For all chemical contaminants
**No advisory system in place for mercury
Table ES-1). The remaining two states, Utah and Wyoming, have no fish contaminant monitoring program for mercury.

On March 15, EPA will finalize rules related to mercury from coal-fired power plants. While EPA’s proposed mercury rules have received extensive attention for a variety of deficiencies, a far-reaching weakness of the rules has been entirely overlooked. EPA’s policies leave the vast western United States subject to rising mercury pollution levels from coal-fired power plants through 2018. If EPA adopts a final mercury pollution control program resembling the core features of its proposal, as is widely accepted, EPA’s rules will:

- Allow overall mercury pollution levels in the western United States to rise through 2018 when additional reductions are required under EPA’s mercury program;
- Permit mercury pollution to increase above current levels between now and 2018 in the following western states: Arizona, Colorado, Nevada, Utah, North Dakota, and South Dakota; and
- Exempt coal-fired power plants from the protections under the Clean Air Act’s hazardous air pollution control program that require each plant to lower mercury pollution by the maximum amount achievable.

Table ES-2 is based on EPA’s own methodology and shows that a final EPA rule with the same key features of its proposal would allow mercury to increase eight percent across the West through 2018 when the second phase of EPA’s mercury program applies. In some states, the permitted mercury pollution increases will be much greater. If EPA’s final rule allows even higher mercury pollution levels in 2010 than its proposal, the permitted mercury pollution increases in the West through 2018 will be even greater.

Today the western United States faces the biggest resurgence of new coal plants in the West’s history. At the same time, existing coal units are projected to operate at higher utilization rates in response to increased electricity demands. This report shows that not only do EPA’s policies allow mercury pollution to increase but that actual mercury

<table>
<thead>
<tr>
<th></th>
<th>1999 emissions (lbs)</th>
<th>2010 emissions (lbs)</th>
<th>% decrease</th>
<th>% increase</th>
<th>2018 emissions (lbs)</th>
<th>% decrease</th>
<th>% increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM</td>
<td>2180</td>
<td>1095</td>
<td>50%</td>
<td></td>
<td>483</td>
<td>78%</td>
<td></td>
</tr>
<tr>
<td>WY</td>
<td>1828</td>
<td>1704</td>
<td>7%</td>
<td></td>
<td>752</td>
<td>59%</td>
<td></td>
</tr>
<tr>
<td>AZ</td>
<td>1254</td>
<td>1329</td>
<td></td>
<td>6%</td>
<td>586</td>
<td>53%</td>
<td></td>
</tr>
<tr>
<td>MT</td>
<td>942</td>
<td>676</td>
<td>28%</td>
<td></td>
<td>298</td>
<td>68%</td>
<td></td>
</tr>
<tr>
<td>WA</td>
<td>530</td>
<td>355</td>
<td>33%</td>
<td></td>
<td>157</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>510</td>
<td>1264</td>
<td>148%</td>
<td></td>
<td>557</td>
<td></td>
<td>9%</td>
</tr>
<tr>
<td>NV</td>
<td>330</td>
<td>510</td>
<td>54%</td>
<td></td>
<td>225</td>
<td>32%</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>284</td>
<td>1013</td>
<td>257%</td>
<td></td>
<td>447</td>
<td></td>
<td>57%</td>
</tr>
<tr>
<td>OR</td>
<td>168</td>
<td>136</td>
<td>19%</td>
<td></td>
<td>60</td>
<td>64%</td>
<td></td>
</tr>
<tr>
<td>ND</td>
<td>2048</td>
<td>2801</td>
<td>37%</td>
<td></td>
<td>1236</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>112</td>
<td>129</td>
<td>15%</td>
<td></td>
<td>57</td>
<td>49%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10186</strong></td>
<td><strong>11012</strong></td>
<td><strong>8%</strong></td>
<td></td>
<td><strong>4858</strong></td>
<td><strong>52%</strong></td>
<td></td>
</tr>
</tbody>
</table>

*California does not have coal-fired power plants and therefore is not reflected here.
pollution levels in the West are expected to increase over the next ten years, even though cost-effective mercury pollution control technology is available now.

The rising mercury pollution in the West could be prevented by cost-effective control technology available today and EPAs adherence to statutory protections under the Clean Air Act. The Clean Air Act’s hazardous air pollution control program requires each existing coal-fired power plant to limit mercury emissions by the maximum amount achievable and to comply with such limits no later than 2009. It also establishes rigorous pollution control requirements for new sources of mercury pollution. This report examines the technologies and methods available today to cost-effectively lower mercury pollution from coal-fired power plants by 90 percent.

**FIGURE ES-1**

*Projected mercury emissions from coal-fired power plants in the West in 1999, 2010 and 2018 and the reduction that would occur if all new and existing plants reduced mercury by 90%*
But EPA has proposed to exempt coal-fired power plants from the human health protections of the nation’s hazardous air pollution control program. If finalized, as anticipated, this exemption has serious impacts in allowing rising mercury pollution in the West. Figure ES-1 shows that effective implementation of the Clean Air Act’s hazardous air pollution control program could achieve dramatic mercury pollution reductions by 2009 from both existing and new coal plants across the West.

Unfortunately, the Clear Skies Act, S. 131, pending consideration by the United States Senate, is similarly flawed. Like EPA’s policies, the Clear Skies Act exempts coal-fired power plants from the Clean Air Act protections requiring each coal plant to make maximum reductions in mercury pollution. Indeed, it categorically exempts all western coal units discharging up to 30 pounds of mercury pollution annually from any pollution limits, allowing numerous coal units in Arizona, Colorado, Montana, North Dakota, Nevada, and Utah to be entirely excluded from the nation’s mercury pollution control program.

The fundamental failure of the federal government to protect human health and the environment from the mercury pollution discharged by coal-fired power plants will be manifest in the western United States. For the West, more mercury pollution is on the horizon.
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