Summary of Results from Harvard School of Public Health Illinois Power Plant Study

(Central estimates, presented to two significant figures.
Note that sums may not add due to rounding)

February 18, 2002

General note: All estimates are derived from the baseline model in (Levy JI, Spengler JD, Hlinka D, Sullivan D, Moon D. Using CALPUFF to Evaluate the Impacts of Power Plant Emissions in Illinois: Model Sensitivity and Implications. Atmospheric Environment 36 (6): 1063-1075 (2002)). Morbidity estimates are based on concentration-response functions derived in Levy et al. (1999), with a modification to the background rate of asthma attacks. To provide a spectrum of severity, calculations are provided for mortality, emergency room visits (all-cause), asthma attacks, and minor restricted activity days.

Mortality (deaths/year, primary and secondary PM$_{2.5}$)

<table>
<thead>
<tr>
<th>Power plant</th>
<th>Current impacts</th>
<th>Lower target impacts</th>
<th>Benefits from reaching lower target emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crawford</td>
<td>26</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Edwards</td>
<td>75</td>
<td>12</td>
<td>63</td>
</tr>
<tr>
<td>Fisk</td>
<td>15</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Hennepin</td>
<td>20</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Joliet 29</td>
<td>33</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>Joliet 9</td>
<td>17</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Powerton</td>
<td>34</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>Waukegan</td>
<td>42</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Will County</td>
<td>49</td>
<td>22</td>
<td>27</td>
</tr>
</tbody>
</table>

All-cause emergency room visits/year (primary and secondary PM$_{2.5}$)

<table>
<thead>
<tr>
<th>Power plant</th>
<th>Current impacts</th>
<th>Lower target impacts</th>
<th>Benefits from reaching lower target emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crawford</td>
<td>350</td>
<td>190</td>
<td>160</td>
</tr>
<tr>
<td>Edwards</td>
<td>990</td>
<td>150</td>
<td>840</td>
</tr>
<tr>
<td>Fisk</td>
<td>200</td>
<td>110</td>
<td>92</td>
</tr>
<tr>
<td>Hennepin</td>
<td>260</td>
<td>110</td>
<td>150</td>
</tr>
<tr>
<td>Joliet 29</td>
<td>440</td>
<td>230</td>
<td>210</td>
</tr>
<tr>
<td>Joliet 9</td>
<td>220</td>
<td>78</td>
<td>150</td>
</tr>
<tr>
<td>Powerton</td>
<td>440</td>
<td>150</td>
<td>290</td>
</tr>
<tr>
<td>Waukegan</td>
<td>560</td>
<td>280</td>
<td>280</td>
</tr>
<tr>
<td>Will County</td>
<td>640</td>
<td>290</td>
<td>360</td>
</tr>
</tbody>
</table>
### Summary of Results from Harvard School of Public Health Illinois Power Plant Study

(Central estimates, presented to two significant figures. Note that sums may not add due to rounding)

#### Asthma attacks/year (primary and secondary PM$_{2.5}$)

<table>
<thead>
<tr>
<th>Power plant</th>
<th>Current impacts</th>
<th>Lower target impacts</th>
<th>Benefits from reaching lower target emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crawford</td>
<td>1,800</td>
<td>990</td>
<td>840</td>
</tr>
<tr>
<td>Edwards</td>
<td>5,200</td>
<td>810</td>
<td>4,400</td>
</tr>
<tr>
<td>Fisk</td>
<td>1,000</td>
<td>560</td>
<td>480</td>
</tr>
<tr>
<td>Hennepin</td>
<td>1,400</td>
<td>570</td>
<td>790</td>
</tr>
<tr>
<td>Joliet 29</td>
<td>2,300</td>
<td>1,200</td>
<td>1,100</td>
</tr>
<tr>
<td>Joliet 9</td>
<td>1,200</td>
<td>410</td>
<td>780</td>
</tr>
<tr>
<td>Powerton</td>
<td>2,300</td>
<td>810</td>
<td>1,500</td>
</tr>
<tr>
<td>Waukegan</td>
<td>2,900</td>
<td>1,500</td>
<td>1,500</td>
</tr>
<tr>
<td>Will County</td>
<td>3,400</td>
<td>1,500</td>
<td>1,900</td>
</tr>
</tbody>
</table>

#### Minor restricted activity days/year (primary and secondary PM$_{2.5}$)

<table>
<thead>
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<th>Current impacts</th>
<th>Lower target impacts</th>
<th>Benefits from reaching lower target emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crawford</td>
<td>23,000</td>
<td>12,000</td>
<td>11,000</td>
</tr>
<tr>
<td>Edwards</td>
<td>66,000</td>
<td>10,000</td>
<td>56,000</td>
</tr>
<tr>
<td>Fisk</td>
<td>13,000</td>
<td>7,000</td>
<td>6,100</td>
</tr>
<tr>
<td>Hennepin</td>
<td>17,000</td>
<td>7,200</td>
<td>10,000</td>
</tr>
<tr>
<td>Joliet 29</td>
<td>29,000</td>
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<td>14,000</td>
</tr>
<tr>
<td>Joliet 9</td>
<td>15,000</td>
<td>5,200</td>
<td>9,800</td>
</tr>
<tr>
<td>Powerton</td>
<td>29,000</td>
<td>10,000</td>
<td>19,000</td>
</tr>
<tr>
<td>Waukegan</td>
<td>37,000</td>
<td>18,000</td>
<td>19,000</td>
</tr>
<tr>
<td>Will County</td>
<td>43,000</td>
<td>19,000</td>
<td>24,000</td>
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