

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})

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

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

Power plant	Current impacts	Lower target impacts	Benefits from reaching lower target emissions
Crawford	350	190	160
Edwards	990	150	840
Fisk	200	110	92
Hennepin	260	110	150
Joliet 29	440	230	210
Joliet 9	220	78	150
Powerton	440	150	290
Waukegan	560	280	280
Will County	640	290	360

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Asthma attacks/year (primary and secondary PM_{2.5})

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

Minor restricted activity days/year (primary and secondary PM_{2.5})

Power plant	Current impacts	Lower target impacts	Benefits from reaching lower target emissions
Crawford	23,000	12,000	11,000
Edwards	66,000	10,000	56,000
Fisk	13,000	7,000	6,100
Hennepin	17,000	7,200	10,000
Joliet 29	29,000	15,000	14,000
Joliet 9	15,000	5,200	9,800
Powerton	29,000	10,000	19,000
Waukegan	37,000	18,000	19,000
Will County	43,000	19,000	24,000