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Local Impacts of Two Chicago Power Plants A Fraction of What Is Claimed, New Studies Find

*Crawford, Fisk power plants account for less than one-half of one percent
of particulate matter in Cook County air, analysis reports*

Efforts to close plants would cost hundreds of jobs and fail to improve air quality

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CHICAGO – New studies by national experts in air quality monitoring and public health find that the impacts of two Chicago power plants on local air quality are a fraction of what has been claimed by those seeking to close them. In fact, the new studies conclude that emissions from the Crawford and Fisk plants owned by Midwest Generation account for less than one-half of one percent of particulate matter pollution in Cook County air.

The studies released today also found serious flaws in a previous report alleging local health impacts and related costs tied to the plants. The new studies reported that claimed local impacts are incorrect given the extremely small portion of particulate matter concentrations that the authors conclude can be attributed to the plants.

The studies show that more than 99 percent of fine particulate matter in Cook County air comes from sources *other* than Crawford and Fisk – including cars, trucks and buses, construction sites and others. In other words, even if the plants did not exist, more than 99 percent of the fine particles in the outdoor air people breathe near the plants and throughout Cook County would still be present.

The new analysis is based on a comparison of air modeling results with actual measurements taken at 12 government air quality monitors in Cook County, using the same procedure the Illinois EPA is using to help determine air pollution control measures needed to protect air quality in Cook County and elsewhere in Illinois.

“We analyzed the data in different ways, but they all led to the same conclusion: The Crawford and Fisk plants have a very small impact on the annual average concentrations of particulate matter in the Chicago area as measured by the Cook County air quality monitors,” said Dr. Howard Ellis, a nationally recognized expert on air quality modeling and monitoring. Ellis is president of Enviroplan, one of the nation’s leading meteorological and air pollution consulting companies.

“The data clearly show that emissions from these plants have very little impact on the public when compared to the total exposure of airborne dust that people experience from other sources. Moreover, the indoor air that we breathe most of the time contains many additional sources of fine particulate matter, often at concentrations far greater than those found outdoors, said Dr. Peter Valberg, lead scientist for Gradient, an environmental and risk science consulting firm based in Cambridge, MA.

Particulate matter is the substance most commonly referenced in discussions about local air quality. The term refers to solid airborne particles and/or liquid droplets that span a wide range of sizes -- including visible specks of road dust, soot, pollen and bacteria. Smaller particles of particulate matter that can enter people’s lungs when inhaled are referred to as *fine particulate matter* or “PM2.5.”

The new analysis also puts into perspective how the small impacts from Fisk and Crawford emissions compare with particulate matter encountered during many everyday activities. Relying upon published research findings from places such as US EPA, the Harvard School of Public Health and the Roswell Park Cancer Institute, Gradient reported that a full year of inhaling the maximum projected levels of fine particulate matter attributed to Crawford and Fisk – even in nearby neighborhoods -- would be the equivalent of just one of the following activities:

- About 15 minutes per week driving a car on an urban freeway
- About 20 minutes per week aboard a Chicago school bus
- Mowing the lawn twice a year
- About 15 minutes per week cooking with a gas stove or oven
- About half a day per year breathing air inside a home where someone smokes
- About 25 minutes per week burning candles in a home
- Two 20-minute visits per month to an indoor food court.

“Air quality is a serious issue, and we are continuing to reduce emissions from our operations,” said Doug McFarlan, Senior Vice President for Public Affairs at Midwest Generation. “But those who claim adverse health impacts due to our plants are distorting scientific data to suit a political agenda to shut down Fisk and Crawford.”

“This misinformation is being used to lobby for bad policy decisions that would needlessly put hundreds of people out of work and undermine the reliability of Chicago’s electric grid. We think a serious policy debate ought to be grounded in facts, and the facts show that our company is committed to environmental responsibility,” McFarlan said.

In the 11 years Midwest Generation has owned Fisk and Crawford, the independent power producer has cut emissions of nitrogen oxide by 60 percent and is currently in construction to achieve additional reductions. It has also cut emissions of sulfur dioxide by 30 percent and operates under state and federal regulations mandating additional cuts starting in 2013.

Midwest Generation also was among the first companies in the country to install mercury emission controls and is now removing more than 90 percent of mercury emissions at Crawford and Fisk. The company has also retired three coal-fired power-generating units in Chicagoland, and has brought emission-free electric power to the region by building one of the largest wind energy farms in the state.

Last October, the Environmental Law and Policy Center (ELPC) distributed a study alleging that “pollution from Fisk and Crawford” had imposed high public costs “in health and related damages.” Midwest Generation LLC, operator of the plants, commissioned two independent, respected air quality and public health firms to review the claims: Gradient and the firm headed by Dr. Ellis, Enviroplan Consulting of Wayne, NJ.

Gradient’s analyses concluded that the alleged “damages” cited by ELPC were based on “a hypothetical model using statistical associations and assumed interpretations” – not on actual air quality data, toxicology or diagnostic medicine. Nor did the ELPC study include any consideration of actual air concentrations measured by the Cook County monitors.

“Moreover, the ‘total damages’ figure includes hypothetical effects on a very large population, generally up to 200 miles away from the source, and including population sizes up to 20 million people. Hence, the ‘damages’ are not only hypothetical, but should not be interpreted as effects calculated to occur in the local vicinity of the plants,” Gradient concluded.

“Given the tiny impacts of Crawford and Fisk emissions on the amount of fine particulate matter in the air that Cook County residents breathe, and the far greater impact from other sources of airborne dust, including household activities, residents of the Chicago area – wherever they live or work – need not fear health problems as a result of the plants’ emissions,” Valberg said.

Although ELPC cited a National Research Council (NRC) report as the basis for its assertions, it misapplied the NRC data in trying to create a link between Crawford and Fisk and alleged local impacts, said Valberg. He explained that the NRC modeling analysis lumped all emissions sources together on a countywide basis, and then used statistical assumptions that generated greatly overstated impacts of the two plants.

Enviroplan, on the other hand, used a far more advanced model to estimate the *specific* impact of emissions from Fisk and Crawford at each of the 12 Cook County monitoring sites. Using actual emissions data from the two plants and all other sources in the County and surrounding areas, this model predicted the percent reduction in annual average PM_{2.5} concentrations at the monitor sites if the plants did not exist.

Another flaw in the ELPC study involves its lack of discussion regarding how miniscule the “dose” of particulate matter is from the two plants that it cited as causing “premature mortality.” Nor does ELPC report what fraction of people’s particulate matter intake was coming from the plants.

“The alleged health effects are not borne out by actual health data from people working at jobs where they breathe much higher levels of particulate matter – with no evidence of premature mortality,” Valberg said. “In other words, ELPC claims local health impacts from Midwest Generation’s Chicago plants that are far more serious than those actually experienced by people exposed to much higher levels of particulate matter.”

The Gradient study also found that if the two plants were shut down, this likely would have no effect on asthma rates in Chicago. In fact, asthma rates in Chicago have gone *up* at the same time that emissions from the plants have gone *down*.

“We’re seeing the same trend in asthma around the world. Medical literature reports that asthma morbidity and mortality rates have continued to rise in US cities and other developed countries at the same time that ambient pollution levels have steadily declined,” said Valberg.

Valberg cited the work of a leading expert on urban asthma, Dr. Peyton Eggleston of the Johns Hopkins School of Medicine. Eggleston has said that while our understanding of environmental influences on asthma is still in its infancy, it’s clear at this point that indoor exposures are more important than pollutants in outdoor air.

Those seeking closure of the two Chicago power plants also often cite a 2002 Harvard School of Public Health study. Valberg said the methodology in that study suffers from some of the same flaws as the recent ELPC report. Ironically, the author of that study has subsequently published studies showing that indoor air concentrations of particulate matter are often greater than outdoor air concentrations.

The so-called “*Harvard Study*” is badly outdated, relying on data from the late 1990s, before Midwest Generation bought the plants and began making substantial environmental improvements. The company continues to sharply reduce emissions of sulfur dioxide, nitrogen oxides and mercury under a 2006 agreement with the Illinois EPA.

Nearly 200 union workers are employed at Crawford and Fisk, and hundreds more building and construction trades members work on special projects in the plants. Crawford and Fisk also play an important role in helping ensure the reliability of the grid that distributes power to homes and businesses in Chicago.

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MEDIA NOTE: Representatives from Gradient and Enviroplan are available for telephone interviews through the contact provided at the top of this release. Copies of their studies are also available upon request. For further information on the Fisk and Crawford plants, please visit www.fiskandcrawfordfacts.com.

About Gradient Environmental Consulting

Gradient is an environmental and risk science consulting firm based in Cambridge, MA and Seattle. Dr. Peter Valberg, Dr. Peter Drivas, and Dr. Chris Long were all involved in preparing this response to the ELPC report. Lead researcher Dr. Valberg has 30 years of experience on the faculty of the Harvard School of Public Health and at Gradient. Dr. Long has a doctorate degree in Environmental Health from the Harvard School of Public Health and more than 10 years of experience working on air pollution issues. Dr. Drivas received his Chemical Engineering doctorate from the California Institute of Technology and has 30 years of experience in air quality modeling of reactive and non-reactive chemicals.

About Enviroplan Consulting

Enviroplan, based in Wayne, NJ, is one of the nation’s major meteorological and air pollution consulting companies, conducting studies and air monitoring programs for private sector clients and government air pollution control agencies. It is headed by Dr. Howard Ellis, educated at MIT and Harvard, who has 38 years of experience in air pollution monitoring and modeling studies. Enviroplan and its predecessor company have conducted more than 3,500 studies and monitoring programs for over 350 industrial and governmental clients. Enviroplan specializes in two areas: 1) air pollution consulting studies and 2) ambient air quality and meteorological monitoring services.