



# Office of the City Clerk

City Hall  
121 N. LaSalle St.  
Room 107  
Chicago, IL 60602  
www.chicityclerk.com

## Legislation Text

File #: O2011-6489, Version: 1

### **CHICAGO CLEAN POWER ORDINANCE**

WHEREAS, the City of Chicago (the "City") is a home rule unit of government pursuant to the 1970 Illinois Constitution, Article VII, Section 6(a); and

WHEREAS, pursuant to its home rule power, the City may exercise any power and perform any function relating to its government and affairs, including, but not limited to, the power to regulate for the protection of the public health, safety and welfare of its residents; and

WHEREAS, home rule legislation is valid absent explicit and specific action by the General Assembly to limit the home rule unit's concurrent legislative authority in that area as laid out by the 1970 Illinois Constitution, Article VII, Section 6(i); and

WHEREAS, great deference is given to the authority of home rule units of government to set their own environmental policy as long as it meets minimum state standards; and

WHEREAS, the City adopted laws regulating the discharge of smoke, fumes, soot, dust, odors, particulate matter, noxious gases and other pollutants into the air from sources located within the City before environmental legislation was enacted by the State of Illinois and United States of America to address the regional, national or international aspects of air pollution; and

WHEREAS, state and federal air pollution regulations do not adequately address local impacts on human health of air pollution from the local sources; and

WHEREAS, the City has a continuing interest in regulating and authority to regulate air pollution emanating from sources located within the City that threaten the health of persons residing within the City; and

WHEREAS, two coal-fired power plants operate within the boundaries of the City (the "Fisk and Crawford Plants"); and

WHEREAS, combustion of coal emits particulate matter and carbon dioxide (CO<sub>2</sub>); and

WHEREAS, power plant emissions are one of the primary causes of particulate matter (PM) and fine particulate matter pollution (PM<sub>2.5</sub>) in the air; and

WHEREAS, emissions from the Fisk and Crawford Plants are a source of particulate matter and carbon dioxide (CO<sub>2</sub>) in the City's atmosphere; and

WHEREAS, the total air emissions of particulate matter and carbon dioxide (CO<sub>2</sub>) from the Fisk and Crawford Plants substantially exceed the emissions from other stationary fossil fuel combustion sources in the City; and

WHEREAS, air pollution, particularly particulate matter, from the Fisk and Crawford Plants degrades the air quality of the City, impairs visibility, and adversely affects the public health of the residents of the City, contributing to lung cancer, premature deaths, acute and chronic bronchitis, emergency room visits, asthma and other respiratory illnesses, and respiratory and cardio-vascular hospital admissions; and

WHEREAS, such health effects cause lost days of work and school; and

WHEREAS, particulate matter from coal-fired power plants located within densely-populated urban areas, such as Chicago, causes more damage per unit of emissions due to the higher rate of human exposure to emissions from such plants; and

WHEREAS, studies such as "Particulate-Related Health Impacts of Emissions in 2001 from 41 Major US Power Plants," Abt Associates, 2002, and "Extended Follow-Up and Spatial Analysis of the American Cancer Society Study Linking Particulate Air Pollution and Mortality," Health Effects Institute, 2009, have shown that each 10- ng/m<sup>3</sup> increase in long term average PM<sub>2.5</sub> ambient concentrations is associated with a 4% increase in the risk of death and an

8% increase in the risk of contracting lung cancer; and

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WHEREAS, studies such as "Invited Commentary: Particulate Matter-Mortality Exposure-Response Relations and Threshold," C. Arden Pope, American Journal of Epidemiology, 2000, and "Fine-Particulate Air Pollution and Life Expectancy in the United States," C. Arden Pope et al., New England Journal of Medicine, 2009, have shown that exposure to PM, especially PM2.5, contributes to cardiopulmonary disease mortality even at relatively low concentrations; and

WHEREAS, studies such as "Invited Commentary: Particulate Matter-Mortality Exposure-Response Relations and Threshold," C. Arden Pope, American Journal of Epidemiology, 2000, have shown that there is no safe threshold level for PM or PM2.5 and there are mortalities and health effects at every level of exposure to PM and PM2.5 which increase in direct relation to exposure levels; and

WHEREAS, studies such as "Fine-Particulate Air Pollution and Life Expectancy in the United States," C. Arden Pope et al., New England Journal of Medicine, 2009, have shown that reducing the amount of PM and PM2.5 in the air increases life expectancy; and

WHEREAS, the residents of the City who are most vulnerable to the harmful health effects of air pollution emanating from the Fisk and Crawford Plants are among the most economically disadvantaged residents of the City and those least able to pay for medical care; and

WHEREAS, the harmful effects of air pollution from the Fisk and Crawford Plants are pronounced in those residents of the City most vulnerable to air pollution, including children, senior citizens, and people suffering from lung disease, heart disease and diabetes; and

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WHEREAS, state and federal regulations which control emissions from fossil fuel-fired power plant units, as well as other stationary sources, are designed to achieve regional, inter-state and international air quality objectives, taking into account cost and other factors; and

WHEREAS, state and federal regulations contain provisions ("grandfathering" provisions) which exempt from certain requirements major sources of air pollution that were constructed prior to the effective date of the regulations; and

WHEREAS, the Fisk and Crawford Plants have avoided the application of certain state and federal requirements due to the grandfathering provisions; and

WHEREAS, due the age of the Fisk and Crawford Plants and the application of the grandfathering provision, the pollution from these facilities is much higher than and disproportionate to newer, more modern coal-fired power plants; and

WHEREAS, the human-induced elevation in the atmosphere of greenhouse gases, of which carbon dioxide is the most significant component, is causing harmful changes to the climate now and will cause significantly more harm in the future if such GHGs are not reduced immediately; and

WHEREAS, the United States Environmental Protection Agency in its Proposed Endangerment Findings on Greenhouse Gases, 74 Fed. Reg. 18886 (Apr. 24, 2009), has found that the negative effects from this human-induced elevation in the atmosphere of greenhouse gases include:

- a warming world climate, with the U.S. expected to warm more than the global average
- more frequent, more intense heat waves ■ droughts
- more intense precipitation, including flooding

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- more intense hurricanes and other storms
- damage to water resources
- harm to ecosystems and wildlife; and

WHEREAS, studies such as "Confronting Climate Change in the U.S. Midwest: Illinois," Union of Concerned Scientists (2009), have found that if current pollution trends continue, greenhouse gas emissions will cause in Chicago:

- hotter summers filled with regular heat waves consisting of deadly temperatures
- worse air and water quality
- heavier rains causing more frequent flash flooding
- lower lake levels

WHEREAS, the "Fourth Assessment Report of the United Nations Intergovernmental Panel on Climate Change," Ch. 14, North America (2007), has found that hot temperatures and extreme weather will cause increased adverse health impacts from:

- heat related mortality
- worse air quality
- storm related fatalities and injuries
- infectious diseases; and

WHEREAS, the City of Chicago must take measures to avoid this irreparable harm to the City's environment and the health of its residents; and

WHEREAS, electricity generation emits a greater share of carbon dioxide than any other sector of the United States economy, and generating electricity from coal emits the most carbon dioxide of any method of electricity generation; and

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WHEREAS, state and federal air pollution regulations do not adequately address local impacts on human health of particulate matter and carbon dioxide (CO<sub>2</sub>) emissions from the Fisk and Crawford Plants; and

WHEREAS, reducing the emissions of particulate matter and carbon dioxide (CO<sub>2</sub>) from the Fisk and Crawford Plants will improve the health and quality of life of the residents of the City generally and those living in proximity to the Fisk and Crawford Plants in particular; and

WHEREAS, demonstrated technology is available to significantly reduce emissions of particulate matter and carbon dioxide (CO<sub>2</sub>) from coal or other high carbon content fuel combustion at power plants, including but not limited to the use of natural gas as the primary fuel;

**BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF CHICAGO:**

SECTION 1. Title 11 of the Municipal Code of the City of Chicago is hereby amended by adding a new Chapter 11-3 underscored as follows:

**Sec. 11-3. Emissions Limits**

- a) A coal-fired power plant located within the limits of the City of Chicago shall not emit pollutants into the atmosphere in excess of any of the following levels: i) Within one year of the effective date of this ordinance, emissions of particulate matter ("PM") shall not exceed
- (1) an emission rate of total PM<sub>7</sub> PM<sub>10</sub> of 0.015 pounds per million BTU of actual heat input in any one hour period as measured by an Approved Method; and
  - (2) an emission rate of PM<sub>2.5</sub>, including filterable and condensable, of 0.010 pounds per million BTU of actual heat input in any one hour period as measured by an Approved Method.
  - (3) An owner of two or more electric utility steam-generating units at the same coal-fired power plant shall have one additional year (providing for up to two years after the effective date) to meet the PM emissions limits contained in subsection 1 1-3(a)(i)(1)-(2).
- ii) Within three years of the effective date of this ordinance, emissions of carbon dioxide ("CO<sub>2</sub>") shall not exceed
- (1) an emission rate of 120.36 pounds per million BTU of actual heat input calculated over a thirty (30) day period.
  - (2) An owner of two or more electric utility steam-generating units at the same coal-fired power plant shall have one additional year (providing for up to four years after the effective date) to meet the CO<sub>2</sub> emissions limits contained in subsection 1 1-3(a)(ii)(1).
- b) All coal-fired power plants located within the limits of the City of Chicago are prohibited from complying with the emissions limits contained in this section by converting from coal as their primary fuel to another high

carbon content fossil fuel.

**Sec. 11-3.010. Definitions**

(a) "Approved Method" as used in §§ 11-3(c)(i)(1), 11-3(c)(i)(2), 11-3(c)(ii), 11-3(c)(iii) and 11-3.030 of this Code, means the following:

i) U.S. EPA Method 202 for condensable PM; and

ii) The following methodologies for filterable PM<sub>2.5</sub>, PM/ PM<sub>10</sub> and CO<sub>2</sub>:

(1) That methodology specified in an applicable final air emission permit issued by the IEPA for the coal-fired power plant unit for measuring emissions of filterable

PM<sub>2.5</sub>, PM/PM<sub>10</sub>, or CO<sub>2</sub> or

(2) in the event the Illinois Environmental Protection Agency ("IEPA") has not specified a methodology for one or more of filterable PM<sub>2.5</sub>, PM<sub>10</sub>, or CO<sub>2</sub>, that methodology specified in an applicable final air emission permit issued by the USEPA for the coal-fired power plant unit for measuring those emissions of PM<sub>2.5</sub>, PM/PM<sub>10</sub>, or CO<sub>2</sub>; or

(3) in the event neither the IEPA nor the United States Environmental Protection Agency ("U.S" EPA") has specified a methodology for one or more of filterable PM<sub>2.5</sub>, PM/PM<sub>10</sub>, or CO<sub>2</sub> that methodology shall be that specified in (1) the "Compliance Assurance Monitoring" standards promulgated by USEPA, 40 C.F.R. § 64 or (2) the "New Stationary Source" performance standards for Electric Utility Steam Generating Units, Subpart Da, also promulgated by USEPA, 40 C.F.R. § 60.47Da.

(b) "BTU" means British thermal unit, the amount of heat necessary to raise the temperature of one pound of water from 39°F to 40°F.

(c) "CO<sub>2</sub>" means carbon dioxide.

(d) "Coal-fired power plant" means a facility with one or more "electric utility steam-generating units" which burns coal, coal refuse, or a synthetic gas derived from coal, or any other high carbon content fuel, either exclusively, in any combination together, or in any combination with other fuels in any amount. Provided, neither the producer nor distributor of the electric power output need qualify as a "Public Utility" as that term is defined in Article 12 of the Chicago Zoning Ordinance.

(e) "Department" means the City of Chicago Department of Environment.

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(f) "Electric utility steam-generating unit" shall have the same meaning as defined at 40 C.F.R. § 60.41 Da, and is capable of combusting more than 73 megawatts (250 million BTU per hour) heat input of fossil fuel (either alone or in combination with any other fuel), provided, neither the producer nor distributor of the electric power output need qualify as a "Public Utility" as that term is defined in Article 12 of the Chicago Zoning Ordinance.

(g) "Emission factor" means the average emission rate of a pollutant (i.e., tons of carbon dioxide) per a unit of activity (i.e., million BTU of fuel consumed). Emission factors include but are not limited to those set forth in Appendix H of the Energy Information Administration's Instructions for Form EIA-1605 (Nov. 18, 2009) and those set forth in the International Panel on Climate Change's Emission Factor Database.

(h) "Facility" means any commercial, industrial, or residential establishment which contains one or more regulated areas or units of regulated equipment. A facility may consist of more than one building or structure where all lots are contiguous and the parts of the facility are functionally related.

(i) "High carbon content fuel" shall include (a) any fuel whose emission factor is greater than or equal to 135 pounds of CO<sub>2</sub> per million BTU (mmBTU) and/or (b) any gaseous, liquid, or solid fuel derived from a fuel whose emission factor is greater than or equal to 135 pounds of CO<sub>2</sub> per million BTU.

(j) "Owner or operator" shall have the same meaning as defined at 40 C.F.R. § 60.2. (k) "Person" means an individual, trust, firm, joint stock company, corporation (including a government corporation),

limited liability company, partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body and shall include each department, agency and instrumentality of the United States.

(l)"PM" means Particulate Matter, any finely divided solid or liquid material, or condensable substance, other than uncombined water, emitted to the ambient air.

(m)"PM2.5" means any Particulate Matter with an aerodynamic diameter less than or equal to a nominal two and one half micrometers.

(n)"PMio" means any Particulate Matter with an aerodynamic diameter less than or equal to a nominal ten micrometers.

**(o)"Responsible official" shall have the same meaning as defined at 40 C.F.R. § 70.2. Sec. 11-3.020. Compliance Plan. Not later than July 1, 2011, each person who owns or operates a coal-fired power plant within the City of Chicago shall submit an initial Compliance Plan to the City of Chicago by filing a copy thereof with the Department. Annually no later than July 1 of each year thereafter until July 1, 2015, each such person shall submit to the Department an updated Compliance Plan. "Compliance Plan," as used in this §11-3.020, means a written plan identifying milestone tasks necessary for the coal-fired power plant to achieve compliance with the emission limitations set forth in § 11-3 of this Code on or before December 31, 2015. Each initial or updated plan shall, at a minimum, include dates for completion of preliminary and final designs, awarding contracts and completion of construction, installation of pollution control equipment necessary to achieve compliance, and plans to assure retention or retraining of any employee whose job may be affected by such compliance. Sec. 11-3.030. Reporting.**

(p)Each person who owns or operates a coal-fired power plant located within the City of Chicago shall submit the reports listed below to the Department. Each of the following reports must be signed by a responsible official of the coal-fired power plant and contain a certification by such official, under penalty of law, as to each report's truth, accuracy and completeness.

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i) By February 1 of each year, a written report identifying the name, address and telephone number of each person who owns or operates the coal-fired power plant and, if such person is a corporation, its state of incorporation and registered agent.

ii) By February 1 of each year, a written report which calculates, using an Approved Method, the emissions of PM<sup>s</sup>, PM/PMio, and CO<sub>2</sub> from each electric utility steam-generating unit at each coal-fired power plant, measured in pounds per million BTU heat input, for the months of January through December of the preceding year, recalculated monthly;

iii) By the 15th of each month, or, should the 15th fall on a holiday or weekend day, the next business day thereafter, a written report which calculates, using an Approved Method, the emissions of PM<sub>2.5</sub>, PM/PMio, and CO<sub>2</sub> from each electric utility steam-generating unit at each coal-fired power plant, measured in pounds per million BTU heat input, for the preceding month.

iv) Within ten (10) business days of its submission to USEPA or IEPA, any report or data pertaining to emissions of PM<sub>2.5</sub>, PM/PMio, and CO<sub>2</sub> from the coal-fired power plant, including the results of any stack test, submitted in the same form (i.e., electronic) as submitted to USEPA or IEPA.

(b) All reports calculating emissions of PM<sub>2.5</sub> and PM/PMio, to be submitted under this §11-3.030 shall document downtime or calibration failure of any continuous emission monitoring equipment required to be installed, operated, calibrated and maintained by Subpart L (Continuous Monitoring) of IEPA Air Pollution Regulations, 35 111. Adm. Code Part 201.

Reports of emissions required to be submitted under this § 11-3.030 shall report emissions as measured by an Approved Method. Emission reporting requirements under this § 11-3.030 of

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this Code may be satisfied, in whole or in part, by providing the Department with an emission report submitted to the IEPA or USEPA provided that the submitted report is supplemented as necessary to fully comply with the emission reporting requirements of §§ 11-3.030(b) and 11-3.030(c) of this Code.

(c) Any coal-fired power plant that has met the emissions limits of § 11-3 or avoided the applicability of § 11-3 by substituting fuels must submit a written report to the Department within thirty (30) days of the substitution verifying that the substitute fuel is not a high carbon content fuel. Such report must be signed by a responsible official of the coal-fired power plant and contain a certification by such official, under penalty of law, as to the report's truth, accuracy and completeness

**Sec. 11-3.040. Enforcement**

(d) Pre-Enforcement Notice. Not less than thirty days prior to commencing an action against a person alleged to have violated this Ordinance, the City shall serve upon that person, either in person or by certified mail, return receipt requested, a written notice informing that person of

i) the nature and location of the alleged public nuisance, including the emissions in excess of limits established by § 11-3 of this Code, the period over which the calculation of emissions was performed, and of the City's intention to commence an action; or

ii) the failure to submit a Compliance Plan required by § 11-3.020 of this Code, the date the Compliance Plan was due (or the specific deficiencies with the Compliance Plan submitted) and of the City's intention to commence an action; or

iii) the failure to submit a report required by § 11-3.030 of this Code, the date the report was due (or the specific deficiencies with the report submitted) and of the City's intention to commence an action.

(e) Enforcement. Upon expiration of the notice period in subsection (a) hereof, the Commissioner may bring suit against any person served with such notice under § 11-3.040(a) in any court of competent jurisdiction to restrain conduct that violates §§ 11-3, 11-3.020 or 11-3.030 of this Code, to compel abatement of a public nuisance, to compel submission of a Compliance Plan, to compel submission of a report as required by § 11-3.030 or to take such other action as may be necessary, including the recovery of any applicable penalties and costs.

(f) City Costs of Enforcement. If the court finds a person liable under §§ 11-3, 11-3.020 or 11-3.030 of this Code, then the court may award the City costs of litigation (including reasonable attorney and expert witness fees and costs). This allowance shall be a part of the costs of the litigation assessed against the defendant, and may be recovered as such.

Sec. 11-3.050. Civil penalties. Violation of any of the provisions of § 11-3 of this Code is hereby declared to be a public nuisance. Each instance in which a coal-fired power plant emits particulate matter (PM, PM<sub>2.5</sub>, PM<sub>10</sub>) or carbon dioxide (CO<sub>2</sub>) into the atmosphere of the City in excess of the limits in § 11-3 shall be deemed a violation of this section. Each one hour period in which the PM/PM<sub>10</sub>/PM<sub>2.5</sub> limits of § 11-3 of this Code are exceeded shall be deemed a separate and distinct violation. Each one day period in which the CO<sub>2</sub> limits of § 11-3 of this Code are exceeded shall be deemed a separate and distinct violation. Any person found to have violated any of the provisions of § 11-3 of this Code shall be fined not less than \$5,000.00 and not more than \$ 10,000.00 per violation.

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Sec. 11-3.060. Conflicting Ordinances. All ordinances or parts of ordinances in conflict with this Ordinance are hereby repealed insofar as they are in conflict.

Sec. 11-3.070. Severability. If any provision of this Ordinance or its application to any person or under any circumstances is adjudged invalid, such adjudication shall not affect the validity of the Ordinance as a whole or of any portion not adjudged invalid.

Sec. 11-3.080. Effective Date. This Ordinance shall be in full force and effect from and after its adoption, approval and publication in pamphlet form as provided by law.

Sec. 11-3.090. Retroactive Application. Emissions from a coal-fired power plant which occur prior to the Effective Date of this Ordinance shall not render a person liable under § 11-3 if those actions contribute or have contributed to a public nuisance.

Sec. 11-3.100. Existing Remedies. This Ordinance does not abrogate or waive any statutory or common law cause of action, administrative remedy, or defense otherwise available to the City and existing before the effective date of this Ordinance. /O