

A. INTRODUCTION

The proposed action consists of the passage of a proposed local law (Intro. 1465-A), which would amend the New York City (NYC) Administrative Code in relation to requiring that power plants refrain from burning fuel oil #4 and fuel oil #6.

The proposed law provides for two options or paths for these units to phase out fuel oil #6 and eventually fuel oil #4. More specifically, power and steam plants currently burning residual fuel oil, or otherwise known as fuel oil #6, would have two options:

- Option 1: Would require units to cease the use of residual fuel oil by January 1, 2020. These units can still utilize fuel oil #4 until January 1, 2025.
- Option 2: Assuming notification is provided to the NYC Department of Environmental Protection by 6/30/2019, this option would allow these units to continue to utilize residual fuel oil until December 31, 2021, after which they could no longer burn residual fuel oil or #4 fuel oil, and would need to switch to #2 fuel oil by January 1, 2022.

The proposed local law would take effect immediately.

B. BACKGROUND

The City has been working for the past 15 years to improve air quality and reduce greenhouse gas emissions. The City is committed to having the best air quality among all major cities in the United States (U.S.) by 2030, in addition to achieving a long-term carbon reduction goal of 80% reduction from 2005 levels by 2050.

Air quality in our city has improved greatly in the past several decades, with levels of harmful air pollutants in the past few years well below concentrations of 10 years ago, although there is still work that needs to be done. The 2016 New York City Community Air Survey (NYCCAS), the largest ongoing, street-level urban air-monitoring program of any U.S. city, found that between 2009 and 2015 the city-wide annual average concentration of fine particulate matter (PM_{2.5}) declined significantly by about 18%. The greatest improvements in PM_{2.5} levels over this time period occurred in some of the previously most polluted neighborhoods.

A key factor in the reduction of fine particulate matter and subsequent air quality improvement has been the phase out of the use of the heaviest heating oils in buildings. In 2011, the NYC Department of Environmental Protection (DEP) issued regulations requiring residential and commercial buildings to convert from #6 and #4 heavy heating oils to cleaner fuels. The transition from #6 fuel oil was completed by June 30, 2015. With the amendment of the Air Code within the City's Administrative Code, any use of #6 fuel oil must be ended by 2020 and any use of #4 fuel oil by January 1, 2030.

In conjunction, as a result of the fuel conversions since 2012, greenhouse gas (GHG) emissions in the City have decreased by 925,000 metric tons of carbon dioxide annually, the equivalent of taking roughly 195,000 cars off the road. PM_{2.5} emissions from buildings have also decreased by 510 tons on an annual basis – preventing an estimated 110 premature deaths and 250 emergency room visits and hospitalizations each year.

Air pollution is mainly derived from fuel combustion within and outside the City. Based upon the U.S. Environmental Protection Agency (EPA) National Emissions Inventory, for PM_{2.5}, 49% of emissions are from buildings, 24% from traffic, 19% from non-road mobile sources, and 7% from electric-power generation (one percent from other sources).

For SO₂, 61% of emissions are from buildings, five% from vehicles, 14% from non-road mobile sources, 17% from electric power generation, and 3% from other sources. PM_{2.5} and SO₂ emissions are the two most important pollutants for public health that the City is able to substantially reduce through local emission controls. From these numbers we see that electric-power generation is responsible for 7% of PM_{2.5} emissions in the City and 17% of SO₂ emissions in the City. Based on our 80x50 Roadmap analysis, it was estimated that 41% of the city's electricity consumption is met by in city generation (average, based upon 2014 data). Of this energy consumed, 5.5% of this energy was provided for by heavy fuel oils, 0.03% was provided for by light fuel oils, and the remainder by natural gas.

With the success of the phase out of fuel oil #6 in buildings, this proposed legislation focuses on one of the remaining sectors that still uses fuel oil #6, a select number of New York City-based power and steam plants.

By accelerating the phase out of fuel oil #4, which was originally scheduled to be phased out by 2030 per Local Law 38 (2015, Sec 24-168), the City will see those benefits from power and steam plants sooner by at least five years. By phasing out fuel oil #6 and fuel oil #4, all power plants in the City can only use fuel oil #2 as their backup fuel. Fuel oil #2 emits less greenhouse gas emissions as well as criterion air pollutants compared to fuel oil #4 and fuel oil #6. Power plants in New York City are required to hold back up fuel for reliability purposes per rules established by the New York State Reliability Council (NYSRC) and the New York State Independent System Operator (NYISO).

C. PURPOSE AND NEED FOR THE PROPOSED ACTION

The Proposed Action is part of a comprehensive City strategy to improve air quality and reduce greenhouse gas emissions, per the City's commitments as discussed above. Section 24-102 of the Administrative Code of the City of New York declares that it is the public policy of the City to preserve, protect and improve the air resources of the City because every person is entitled to air that is not detrimental to life, health and enjoyment of property. Specifically, Section 24-102 declares that it is the policy of the City to actively regulate, control and reduce air pollution. Section 1403 (C) of the Charter of the City of New York and Section 24-105 of the Administrative Code authorize the City to regulate and control of emissions of harmful air pollutants into the open air. These pollutants include PM, SO₂, NO_x and CO.

In conjunction, the City has a long-term decarbonization goal of achieving 80% reductions of greenhouse gas emissions relative to 2005 levels. Most recently, in 2017, New York City Mayor Bill De Blasio signed Executive Order 26, committing the most populous city in the U.S. to the principles of the Paris Agreement and to developing a pathway to advance the Paris Agreement goal of limiting global temperature rise to 1.5 degrees Celsius.

This proposed law is aimed at reducing criterion pollutants and greenhouse gas emissions, and would result in the following range of total potential emissions savings estimates over the period of 2020 to 2029, given the two options available. The second option would result in larger emissions reductions.

- ~106,454 to 125,898 tons of carbon dioxide emissions reductions
- ~2865 to 3610 tons of sulfur dioxide emissions reductions
- ~634 to 1027 tons of PM₁₀/PM_{2.5} emissions reductions
- ~71 to 115 tons of volatile organic compounds (VOCs)
- ~2,192 to 3507 tons of nitrogen oxides

Given the expected reduction in these emissions, it is anticipated that public health benefits associated with these reductions would occur, although specific air emissions modeling was not conducted as part of the technical analysis conducted for this environmental review.

D. ANALYSIS FRAMEWORK

Analysis Year

The proposed law would go into effect immediately upon passing by City Council, however actual emission reductions would not be realized until 2022 and/or 2025 due to the different options presented in the proposed legislation. Therefore, the analysis period is 2018 to 2030.

Existing Conditions

Power plants in New York City, as discussed earlier, are required to be dual-fuel capable for reliability reasons. For all power plants in New York City, we understand that natural gas is the primary fuel. Plants use fuel oil #2, fuel oil #4 and fuel oil #6 as their potential secondary fuel. Under LL38/2015, power plants operating steam boilers are required to cease using fuel oil #6 (residual fuel) by 2020, and fuel oil #4 by 2030.

The Future without the Proposed Action (No-Action Condition)

Without the Proposed Action, the current local law stipulates that all fuel oil #6 (residual fuel oil) must be phased out in steam boilers by 2020 and fuel oil #4 by 2030. Therefore, without the proposed legislation (Intro 1465-A), no accelerated reduction in criterion pollutant emissions and GHG emissions would be achievable.

The Future with the Proposed Action (With-Action Condition)

The proposed law provides for two options or paths for these units to phase out fuel oil #6 and eventually fuel oil #4. More specifically, power and steam plants currently burning residual fuel oil, or otherwise known as fuel oil #6, would have two options:

- Option 1: Would require units to cease the use of residual fuel oil by January 1, 2020. These units can still utilize fuel oil #4 until January 1, 2025.
- Option 2: Assuming notification is provided to the NYC Department of Environmental Protection by 6/30/2019, this option would allow these units to continue to utilize residual fuel oil until December 31, 2021, after which they could no longer burn residual fuel oil or #4 fuel oil, and would need to switch to #2 fuel oil by January 1, 2022.

The passing of Intro. 1465-A would result in reduced greenhouse gas emissions and criterion air pollutants that would have otherwise been allowed to be emitted through 2030.

E. REQUIRED ACTIONS AND APPROVALS

The proposed action is the passage of a proposed local law (Intro. 1465A) to amend Section 24-168 of the Administrative Code of the City of New York, as amended by local law number 38 for the year 2015, and therefore requires City Environmental Quality Review (CEQR).

Introduction

This Environmental Assessment Statement (EAS) has been prepared in accordance with the guidelines and methodologies of the 2014 City Environmental Quality Review (CEQR) Technical Manual. For each technical area, thresholds are defined which, if met or exceeded, require that a detailed technical analysis be undertaken. Using these guidelines, preliminary analyses were conducted for the proposed action to determine whether detailed analysis of any technical area would be appropriate.

Part II of the EAS Form identified those technical areas that warrant additional assessment. For those technical areas that warranted a “yes” answer in Part II of the EAS Form, supplemental screening is provided in this attachment. The technical area discussed is: Land Use, Zoning, and Public Policy (Waterfront Revitalization Program). In addition, it was deemed necessary for four additional technical areas that screened out as per the EAS Form to provide supplemental screening due to the specific nature of the proposed action. These analysis areas are the following: Land Use, Zoning, and Public Policy, Air Quality and Greenhouse Gas Emissions, and Public Health.

The remaining technical areas detailed in the CEQR Technical Manual do not require supplemental analysis because they do not trigger CEQR thresholds and/or are unlikely to result in significant impacts. Based on the findings of the supplemental analyses provided in this attachment, the proposed action does not require any detailed analyses.

Land Use, Zoning and Public Policy

The proposed action is generic and would apply citywide. As the proposed action includes the implementation and administration of the proposed legislation, and there will be no project site or development proposal associated with the proposed action, no land use or zoning analysis is warranted.

Given the anticipated reductions in carbon emissions, the Proposed Action will help the City meet its decarbonization goals of reducing greenhouse gas emissions 80% relative to 2005 levels by 2050. Similarly, given the reductions of criterion air pollutants, including sulfur dioxide, particulate matter and nitrogen oxides, the Proposed Action will help the City advance its air quality goals.

Waterfront Revitalization Program

Because the proposed legislation would apply citywide, including areas within the City’s Waterfront Revitalization Program (WRP) boundary area, the proposed action was assessed for its consistency with the WRP’s ten policies. The WRP consistency assessment form (CAF) is attached to this EAS.

According to the CAF, the proposed action would not result in any significant adverse public policy impacts.

Air Quality and Greenhouse Gas Emissions

Even though an air quality and greenhouse gas emissions analysis under CEQR are not warranted as per EAS Form Part II (14) and (15), a discussion is provided below on the benefits that the proposed action would have on air quality and greenhouse gas emission reductions.

Based upon an analysis conducted by ESS, a summary of which is provided in Appendix 1, we understand that the proposed action will help improve air quality and result in greenhouse gas emission reductions. According to the analysis, from the two options presented, Option 2 will result in greater emissions reductions across carbon dioxide, sulfur dioxide, particulate matter, volatile organic compounds, and nitrogen oxides. Specifically, the benefits estimated include the following reductions over a 10 year period of 2020 to 2029:

- ~106,454 to 125,898 tons of carbon dioxide emissions reductions
- ~2865 to 3610 tons of sulfur dioxide emissions reductions
- ~634 to 1027 tons of PM₁₀/PM_{2.5} emissions reductions
- ~71 to 115 tons of volatile organic compounds (VOCs)
- ~2,192 to 3507 tons of nitrogen oxides

Therefore, the proposed action would not result in any adverse air quality or greenhouse gas emission impacts. To the contrary, the proposed action would result in air quality improvements and greenhouse gas emission reductions.

Public Health

Even though a public health analysis under CEQR is not warranted as per EAS Form Part II (17), a discussion is provided below on the benefits that the proposed action would have on public health.

Given the anticipated reductions in carbon dioxide and criterion pollutants such as sulfur dioxide, PM₁₀/PM_{2.5}, volatile organic compounds, and nitrogen oxides that would occur as a result of the proposed action, it would not result in any significant adverse public health impacts.