

Environmental Justice/Title VI Review
Equinix, LLC
I.D. No.: 031440AVZ
Application No.: 28080013

1. Introduction

This document describes the various Environmental Justice (EJ) and Title VI¹-related considerations undertaken by the Illinois EPA's Bureau of Air in evaluating the above-referenced construction permit application. Because the proposed project will be located in an EJ area of concern, the Illinois EPA's policies for enhanced public outreach and evaluating potential impacts to overburdened communities were addressed in the permit review process. In addition, a Title VI-related settlement agreement (i.e., Informal Resolution Agreement or IRA) entered between the Illinois EPA and the USEPA in February 2024² was applied to this review process and resulted in a written analysis of the applicant's history of prior adjudications and past compliance, as discussed later.

2. Permitting Project:

Equinix, LLC, (Equinix) proposes to construct an electronic data center (designated as the CH-5 data center) to operate in conjunction with an existing data center located at 1905 Lunt Avenue in Elk Grove Village, Illinois. Elk Grove Village is a community comprised of only an estimated 32,000 people but is located directly next to the O'Hare International Airport and contains one of the more concentrated hubs of manufacturing, logistic freight, and other economic activities in Illinois. Several data centers are included amongst its businesses.

Equinix's existing data center (known as the CH-3 facility) was permitted by the Illinois EPA with a Federally Enforceable State Operating Permit (FESOP) on November 2, 2011. The FESOP was renewed on August 15, 2018, and was most recently revised on July 30, 2020. Equinix operates 19 diesel-fired emergency generators (all units are 2,500 electric kilowatt (kW)) at the existing facility but 15 of the generating units have operational limits of 250 hours per year (hr/year) and the remaining 4 have limits of 115 hr/year. The generators are used to support the data center when electrical generating power from the grid is not available due to outages. The current FESOP also authorizes the operation of 10 cooling towers that support facility operations.

¹ Title VI refers generally to the requirements of Title VI of the federal Civil Rights Act of 1964, which is one of eleven titles to the law and is entitled "Nondiscrimination in Federally Funded Programs." See, 42 U.S.C. §§2000d to §§2000d-7.

² The negotiated terms of this IRA involved a Title VI disparate impacts complaint filed with USEPA in 2020 stemming from the issuance of a construction permit to General III for the relocation of a scrap metal recycling facility to Chicago's Southeast Side. The *General III* IRA memorializes the Illinois EPA's commitment to consider additional factors in its review of certain construction permit applications, as well as to enhance its public participation policies, for the purpose of improving transparency and assuring meaningful public access to its programs and activities. Additional information concerning the settlement agreement can be found on the Illinois EPA's webpage (i.e., use the Environmental Justice tab from the General Information drop-down menu).

The current project proposes an additional 15 diesel-fired emergency generators (14 units will be 3,500 kW, 12 of which are to be controlled by diesel particulate filters, while a smaller generator unit will be a 800 kW). The issued construction permit acknowledges that the new data center will be treated as a single stationary source with the existing data center for purposes of air permitting programs. These operations are generally classified as Computer Processing and Data Preparation and Processing Services, Code 7374, under the Standard Industrial Classification system. Recent media reports indicate that increasing demands for internet-driven services, cloud storage and artificial intelligence (AI) technology are spurring new or expanding data center developments across the industry. Such efforts are generally viewed as essential to promoting the Nation’s modern infrastructure needs.

For this construction permit, Equinix is limiting its annual fuel oil consumption from the proposed project and emissions to restrict its potential-to-emit to less than major source thresholds. For emissions of Nitrogen Oxides (NOx), which are a pollutant of concern because they are generated in the highest amounts during the run-time of the emergency generators, combined permitted emissions from the two data centers are roughly 79.26 tons per year (tpy). See, Attachment A-Emissions Summary to issued construction permit.

This construction project would result in proposed increases in annual permitted emissions of criteria pollutants from the facility, as follows:

Pollutants	Proposed Emissions Increase
	(Tons per Year)
NOx	37.73
Carbon Monoxide (CO)	1.79
Particulate Matter (PM)	0.41
Volatile Organic Material (VOM)	0.89
Sulfur Dioxide (SO ₂)	0.03

Equinix will be required to account for emission increases from the project and the broader source (both existing and new data centers) in a revised application for a Federally Enforceable State Operating Permit (FESOP). It is anticipated that the Chicago metropolitan ozone non-attainment area will be re-classified by USEPA in the near future, changing from a moderate to a serious designation for the 2015 National Ambient Air Quality Standards (NAAQS) for ozone. This will mean that the potential-to-emit threshold for triggering a major source under the Illinois Clean Air Act Permit Program (CAAPP) will be lowered for both NOx and VOM from 100 tpy to 50 tpy. The company will be obliged at that time to decide whether to submit a CAAPP application for its operations or to reduce emissions below CAAPP thresholds within 12 months after becoming a new CAAPP source via the redesignation.

3. *EJ Screen Results:*

A copy of the USEPA’s EJ Screen’s Community Report was retrieved by the Illinois EPA for the facility’s location utilizing a one-mile radius. A review of the EJ Indexes for this location (combining data on low income and people of color populations with selected environmental indicators) reveals percentiles

greater than 80%³ based on Illinois averages for several indicators: Nitrogen Dioxide (NO₂) at 81%, Toxic Releases to Air at 90%, Traffic Proximity at 85%, Risk Management Program (RMP) Facility Proximity at 84%, Hazardous Waste Proximity at 92%, Underground Storage Tanks at 85%, and Drinking Water Non-compliance at 94%.

A review of the Supplemental Indexes for this location (combining data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator) reveals percentages of greater than 80% based on Illinois averages for several indicators: Particulate Matter 2.5 at 82%, NO₂ at 88%, Diesel Particulate Matter at 86%, Toxic Releases to Air at 95%, Traffic Proximity at 92%, RMP Facility Proximity at 91%, Hazardous Waste Proximity at 97%, Underground Storage Tanks at 92%, Wastewater Discharge at 81%, and Drinking Water Non-compliance at 94%.

A review of the Environmental Burden Indicators data from the Community Report, which provides estimated values for pollution impacts and proximity to other sources, reveals percentiles greater than 80% based on Illinois averages for the following indicators: Toxic Releases to Air at 93%, RMP Facility Proximity at 81%, Hazardous Waste Proximity at 99%, and Drinking Water Non-compliance at 94%.

4. EJ Outreach and Public Participation Process:

The Illinois EPA conducted enhanced outreach through the EJ notification process. The EJ notification letter was sent to 73 separate groups, individuals, and elected officials on September 8, 2023. No inquiries were received in response to the EJ notification letter.

In accordance with the Illinois EPA Language Access Plan (LAP), Illinois EPA reviewed the USEPA's EJ Screen community data for the area within one mile of the facility. The number of Limited English-Speaking is 15%.

5. Air Quality Modeling Analysis:

At the Illinois EPA's request, the project underwent a comprehensive air quality modeling analysis to predict the air quality impacts from the project. The modeling conservatively estimated the source impact of running all emergency generators operating at the source (generators from both the proposed data centers and from the existing data center) at the same time. In doing so, the modeling contemplated both the potential broader effects of the data centers operating during times of electrical outages, as well as during the normal operating state of maintaining generator readiness, when the generators are subject to on-going, periodic testing and maintenance.

³ According to USEPA's EJ Screen technical manual [EJScreen Technical Documentation for Version 2.3 \(epa.gov\)](https://www.epa.gov/ej-screen-technical-documentation-for-version-2.3), USEPA identified the 80th percentile filter as an initial starting point when screening for EJ concerns. In other words, an area with any of the 13 EJ Indexes at or above the 80th percentile should be considered as a potential candidate for further review.

Equinix's consultant performed an air quality dispersion modeling analysis to assess the environmental impact of increased emissions associated with the emergency generators from the two data centers. The Modeling Unit of the Permit Section audited the consultant's modeling files and a source impact analysis of relevant NAAQS and their respective averaging periods. This initial review found that some pollutants exceeded the relevant significant impact levels (SILs)). The Modeling Unit evaluated the increases from precursor pollutants (i.e., NOx, SO2, and VOM) to assess the effects of secondarily formed ozone (O3) and PM2.5, concluding that impacts would be less than significant for all averaging periods of O3 and PM2.5. A NAAQS analysis of PM10 (24-hr), PM2.5 (24-hr) and CO (8-hr) revealed that modeled impacts from the permitted source and nearby inventoried sources would be below their respective standard and respective averaging period values.

The Modeling Unit screened the project for air toxics but did not perform a formal analysis because the screening results did not reveal an appreciable impact.

For additional discussion of the modeling analysis, see the Memorandum from the Modeling Unit to the State Permits and FESOP Unit of the Permit Section, December 18, 2024.

6. Permit Enhancements:

Permit enhancements consist of permit conditions that are incorporated into construction permits by the Illinois EPA to assure that a source can achieve compliance with applicable requirements, or that are necessary to accomplish the purposes of the Illinois Environmental Protection Act (Act) and are not inconsistent with Illinois Pollution Control Board (PCB) regulations. The Illinois EPA frequently considers permit enhancements when authorized by existing law.

The issued construction permit contains limitations on both the fuel usage of the emergency generators and on permitted emissions. Special Condition 12(a) provides for separate limits on the fuel consumption (expressed in gallons per month (gal/month) and gallons per year (gal/year)) and emission limits (expressed in pounds (lb) per hour and tpy) for the 12 generators that are controlled for diesel particulates, the 2 generators that are uncontrolled, and the smaller generator respectively. As such, the construction permit restricts emissions, and particularly for the pollutant of concern, NOx emissions, to levels below that which would trigger major source requirements under the nonattainment areas regulations found at 35 Ill. Adm. Code Part 203. The finding of non-applicability of the major source rules, as shown in Special Condition 1(a) of the permit, included an assessment of permitted limits from the existing data center in conjunction with the proposed project.

Equinix proposed the use of diesel particulate filter controls on each of the 3,500 kW generators except for three (i.e., one providing backup power for offices and comfort heating/cooling systems and the other two being the redundancy (R-Block) generators that are used as back-up generators). The particulate controls will result in an 85% reduction in PM from the controlled generators at the new data center. This control option also provides emission reductions for CO and VOM at an estimated 70% and 60% respectively. As a consequence of this proposal, Equinix acknowledged in its permit application that the

controlled generators should undergo routine maintenance and testing requirements, as well as additional testing under certain specified operating scenarios. These requirements, as contemplated as a condition of the air quality modeling analysis, are addressed by Special Condition 12(d), 12(e), and (f) of the construction permit.

In the issued construction permit, the Illinois EPA is requiring the source to submit an episode action plan within 90 days of permit issuance, consistent with other recent data center projects permitted by the Illinois EPA. In this regard, the source will comply with the requirements of Subpart C, entitled Episode Action Plans, of 35 Ill. Adm. Code Part 244. Special Condition 11(a) of the construction permit address these requirements.

7. Past Adjudications and/or Past Compliance History of Applicant:

Because the construction project implicated the requirements of the *General Ill* IRA, the EJ/Title VI review document for this permitting action affirmatively considered the prior adjudications and past compliance history of the permit applicant, consistent with existing permit authorities found in the Act.

A review of the applicant's history at the Elk Grove Village facility does not reveal any prior adjudications or the entry of agreed consent orders by Illinois state courts, federal courts, or by the PCB. Similarly, a review of the applicant's past compliance history for air-related matters for the facility (per USEPA's Enforcement and Compliance History Online (ECHO)) does not reveal any recent involvement by the source in the pre-enforcement processes of either the Illinois EPA or USEPA.

8. Additional Considerations:

Increased emissions of PM (especially PM_{2.5}) and HAP-related emissions from a permitting project may present concerns to people residing in the vicinity of a project's planned location, particularly where there are other industrial sources located nearby. PM_{2.5} is often a pollutant of concern in communities that border areas of industrial or manufacturing activity because of the adverse effects that smaller-sized particles of PM may pose to the environment or to human health. For this project, there is a negligible increase in permitted annual emissions of PM (i.e., at 0.41 tpy) projected to occur from the emergency generators for the new data center. As shown by EJ Screen's Community Report profile, environmental indicators rank PM pollution as being slightly above the state average for this location (source value of 9.12 as compared to State average of 8.96) but in the 57th percentile of total rankings. The air quality modeling analysis confirmed that modeled concentrations of PM_{2.5} and PM₁₀ emissions for this project (and the combined source) would be below the applicable standard and respective averaging periods for both components of PM, and that emissions of VOM, NO₂, and SO₂ will not pose a significant impact on PM_{2.5} formation.

HAP-related emissions from a construction project may also pose public concerns due to their individual or collective impacts. For this project, the toxics screening analysis conducted by the Modeling Unit confirmed that no appreciable impacts would occur and the construction permit contains a common permit restriction, as shown in Special Condition 13, for limiting the project's potential to emit to less than

10 tpy for any single HAP and 25 tpy for any combination of total HAPs, assuring that the source avoids major source status under the requirements of Section 112(g) of the Clean Air Act.

9. *Evaluation of Title VI Criteria for Disparate Impact Discrimination:*

As described by the Overview and Implementation webpage for the *General III* IRA, the criteria for evaluating whether agency action is responsible for disparate impact discrimination is 1) identifying the policy or practice at issue, 2) a showing of adversity/harm, 3) a showing of disparity and 4) a showing of causation. Although this examination can be complicated, the operative criterion in most cases involving the permitting of air pollution sources is adversity/harm. The Illinois EPA's analysis in this review document examines the issue of alleged adversity/harm by assessing whether circumstances would support an enforcement action brought under existing environmental laws and regulations.

a. Substantive Standards

The issued construction permit will increase annual permitted emissions of NO_x and, to a much lesser degree, CO, VOM, PM, and SO₂ emissions. However, based on the air quality modeling analysis, these increased emissions from the project will not violate the NAAQS. As noted, the construction permit will limit fuel usage and hours of operation from the emergency generators to assure that the source remains a minor source (nonmajor for purposes of air permitting programs). Nothing presented in the permit review indicates that the proposed project would cause a violation of air emission standards addressed by the Act, the PCB's Subtitle C (Air Pollution) regulations, or applicable federal regulations adopted by USEPA and enforceable by the Illinois EPA under state law.

b. Narrative Standards

The Illinois EPA has no information that would demonstrate a violation of a narrative standard of air pollution based on possible health impacts.

c. Nuisance-Based Standards

There is no history of odor complaints or nuisance believed to be associated with the proposed facility, such that a claim of statutory or common law nuisance could be demonstrated.