

Environmental Justice/Title VI Review
Alto Pekin, Inc.
I.D. No: 179060ACR
Application No.: 05010062

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 application to revise a construction permit. Because the plant is 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

Alto Pekin, Inc. ("Alto") performs corn wet and dry milling and ethanol production at its complex in Pekin, Illinois. Pekin is a town comprised of nearly 32,000 people that lies next to the Illinois river and south of the Peoria metropolitan area. A federal correctional facility and an insurance provider, Pekin Insurance, are among the main employers to the area.

The dry mill facility was added to the complex pursuant to Construction Permit/Prevention of Significant Deterioration of Air Quality (PSD) Approval No. 05010062. The dry mill facility began operation in January 2007. In the dry milling operation, ethanol is produced from whole corn with animal feed produced as a by-product. There are several distinct operations at the dry mill facility. First, corn is prepared for fermentation, by cleaning (removing foreign matter), grinding, mixing with water, and cooking with enzymes that convert the starch in the corn into sugar. The resulting corn mash is then sent to the fermentation tanks for batch fermentation. Yeast is added to the corn mash in the fermentation tanks. The yeast converts the sugar in the corn mash into "beer," primarily a mixture of ethanol, stillage and carbon dioxide (CO₂). Two scrubbers are used to control emissions of ethanol and other organic compounds from the fermentation tanks.

The emissions from fermentation preparation, distillation, and feed dewatering and drying are controlled by a natural gas-fired oxidizer system (referred to as the "oxidizer/boiler"), which also serves to supply the steam for the dry mill facility. The original permitting of the project included a Best Available Control

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).

Technology (BACT) determination for the oxidizer/boiler and accompanying emission limits for pollutants emitted by the process, which include nitrogen oxides (NOx), particulate matter (PM), and volatile organic material (VOM). However, achieving continuous compliance with the NOx BACT limit has proven problematic due to several factors previously unknown. These factors include higher-than-expected NOx emissions from both the process and fuel combustion, as well as the need to operate the oxidizer/boiler at a higher minimum oxygen concentration. As a consequence, Alto proposes the following:

a. Changes to the NOx BACT Emission Limit for the Oxidizer/Boiler

Alto requests a revision to the Construction Permit/PSD Approval to increase the NOx BACT limit for the existing oxidizer/boiler from 0.05 lbs/mmBtu to 0.075 lbs/mmBtu. The original application and permit only addressed NOx attributable to combustion of natural gas and did not address NOx that would otherwise be created at upstream process units at the plant (also known as “process NOx”). Corresponding changes to the permitted hourly and annual emission limits for the oxidizer/boiler were also requested.³ While the draft revised construction permit establishes a higher annual emissions rate for the oxidizer boiler, this higher annual limit is a function of the new BACT limit established by the draft revised construction permit. The revised BACT limit represents the maximum degree of reduction for NOx that would be emitted from the oxidizer/boiler that the Illinois EPA determined is achievable.

b. Changes to Rated Firing Rates

Alto also request changes to the rated firing rates for two existing feed dryers and the existing oxidizer/boiler to reflect their as-built design. For the feed dryers, the design firing rate would be lowered from 50 mmBtu/hour to 45 mmBtu/hour. For the oxidizer/boiler, the design firing rate would be lowered from 150 mmBtu/hour to 120 mmBtu/hour.

c. Changes to Stack Heights, Additional Operating Limits, Additional Emission Limits

Alto proposed: (i) taller stacks for the existing Milling Baghouse (C-30) and the existing Feed Cooling Baghouse (C-70); (ii) limits on operating hours for the existing feed storage operations; and (iii) PM_{2.5} emission limits for the existing milling units, fermentation operations, the oxidizer/boiler, the feed cooling and transport system and the feed storage and loadout systems.

The draft revised construction permit would result in proposed increases in annual permitted emissions of NOx from the existing plant:

Pollutant	Proposed Emissions Increase in Annual Permitted Emissions
	(Tons/Year)
NOx	14.19 Net change from revised NOx limit of 54.80 tons/year compared with proposed limit of 68.99 tons/year.

³ This draft revised construction project would result in an increase in annual permitted emissions of 14.19 tons/year of NOx from the plant.

3. EJ Screen Results

At the time of this permit review, EJ Screen results previously obtained through the U.S. Environmental Protection Agency's EJScreen webpages are no longer available. Other federal agency screening guides, including the Environmental Justice Index administered by the Centers for Disease Control (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR) and the Climate and Environmental Justice Screening Tool administered by the White House Council for Environmental Quality (CEQ), are also unavailable.

The Illinois EPA continues to implement its EJ Policy through the use of EJ Start, which relies on census data for identifying potential areas of EJ concern based on low income and minority populations. In this case, the Illinois EPA conducted enhanced public outreach because the mapping tool identified the area surrounding the plant as a potential area of EJ concern. See, EJ Outreach below.

Demographical information relating to the affected community can be found on Wikipedia: The Free Encyclopedia at Pekin, [Illinois-Wikipedia](#) and on a detailed facility report for this source generated by USEPA's enforcement and tracking database known as the Enforcement and Compliance History Online (ECHO) [Detailed Facility Report | ECHO | US EPA](#).

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 44 separate groups, individuals, and/or elected officials on May 15, 2025. 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 American Community Survey results from the 2020 Census Bureau for the area of the proposed site. The percentage of households who speak English less than very well at home is 0.4% (i.e., combined number of affected languages shown at 131 divided by population total 30,188).

5. Air Quality Modeling Analysis

As a requirement of Illinois' PSD Permit Program, 35 IAC Part 204, the proposed changes were evaluated by performing a Source Impact Analysis to predict the air quality impacts for the proposed changes. The initial modeling analysis and modeling files were submitted by Alto's consultant, RTP Environmental Associates, Inc. (RTP), to the Illinois EPA in July 2022, with subsequent updates in April 2024, July 2024 and March 2025.

The Source Impact Analysis for all modeled pollutants and their respective averaging periods showed modeled concentrations below USEPA's significant impact levels (SILs). The Illinois EPA also considered the impact of the increase in NO_x emissions relative to the effects of secondarily formed ozone (O₃) and PM_{2.5} on the NAAQS. These results indicated no significant impacts from the secondary formation of O₃ or PM_{2.5}.

RTP also provided an Additional Impacts Analysis, which evaluated changes in air quality from local growth due to the proposed changes. This analysis also assessed the potential for visibility impairment and provides assurance that impacts on soil and vegetation would not exceed appropriate ecological soil screening levels. The Illinois EPA reviewed Alto's Additional Impact Analysis and determined that there

would be: (i) no impacts due to growth, (ii) no adverse impacts on visibility impairment, and (iii) no adverse impacts to soils and vegetation.

For additional details concerning the modeling analysis, see the Memorandum from the Modeling Unit to Jason Schnepf, Construction Unit Manager, Permits/BOA, June 13, 2025. The modeling memorandum can be found here: <https://epa.illinois.gov/public-notice/boa-notice.html>

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 draft revised construction permit restricts both the capacity of the oxidizer/boiler and its NO_x emissions to ensure that the oxidizer/boiler is operated in compliance with BACT. These NO_x emissions are readily tracked by the plant's continuous emissions monitoring system (CEMS). The draft revised construction permit continues to require this CEMS. The draft revised construction permit can be found here: <https://epa.illinois.gov/public-notice/boa-notice.html>

Because NO_x emissions may react in the atmosphere to form particulate in the form of PM_{2.5}, the permit also addresses tighter requirements for PM_{2.5}. The draft revised construction permit sets limits on PM_{2.5} emissions from several units including the: (i) oxidizer/boiler, (ii) feed cooling and transport system with baghouse, (iii) milling units with baghouse, (iv) fermentation operations with CO₂ scrubber, (v) feed storage and loadout systems with baghouse and (vi) cooling tower. For the Feed Cooling Baghouse and the Milling Baghouse, the permit also requires Alto to increase the height of the stacks to improve dispersion of PM_{2.5}.

The oxidizer/boiler is subject to federal rules that limit the amount of NO_x that can be emitted to the atmosphere. The New Source Performance Standard (NSPS) for Industrial-Commercial-Institutional Steam Generating units, 40 CFR 60, Subpart Db, limits emissions of NO_x to 0.2 lb/mmBtu; however, as stated above, the draft revised construction permit would limit NO_x emissions to 0.075 lb/mmBtu.

The various sources of particulate emissions, including PM_{2.5}, are subject to state rules under 35 IAC Part 212 depending on the type of emission source. The draft revised construction permit does not revise applicability of those rules.

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

Because the draft revised construction permit implicated the requirements of the *General III* 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.

In this instance, the applicant has a history of alleged noncompliance arising from the operation of the oxidizer/boiler that relates this permitting action. Alto was cited by the Illinois EPA in pre-enforcement notices in 2016 (VN-A-2016-00169) and in 2021 (VN-A-2021-00127) for NO_x emission exceedances from

the oxidizer/boiler. The draft revised construction permit is expected to resolve both pending notices of violation.

Alto was also sent a pre-enforcement notice (VN-A-2024-001300) in 2024 that involved separate process units at the plant, including a vapor control unit. This notice is not resolved and is currently being monitored by Compliance staff. However, the subject matter of the notice does not specifically relate to the scope of the permit application such that permit conditions are necessary or appropriate. An earlier pre-enforcement notice from 2022 (VN-A-2022-00455) was resolved by Alto through a Compliance Commitment Agreement (CCA) entered on September 12, 2022. This matter involved a secondary vent scrubber that is unrelated to the current permit application, and because the matter was resolved through the CCA process, it was not deemed necessary to address through this permitting action.

8. Additional Considerations

In general, increased emissions of PM (especially PM_{2.5}) and HAP-related emissions⁴ 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. The air quality modeling analysis confirmed that modeled concentrations of PM_{2.5} for both a 24-hour and annual average periods would be below SIL. In a similar regard, the modeling also found there to be no significant impact from NO_x, SO₂, or VOM emissions associated with the project on secondary PM_{2.5} formation.

In addition, HAP-related emissions from a construction project may also pose public concerns due to their individual or collective impacts. For this project, the issuance of the final permit was based on the project's potential-to-emit for HAPs being less than 10 tpy for any single HAP and 25 tpy for any combination of total HAPs.

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 draft revised construction permit will increase annual permitted emissions of NO_x from the existing oxidizer/boiler. However, based on the air quality modeling analysis, the increased emissions from the oxidizer/boiler will not violate the NAAQS. As noted, the draft revised construction permit limits the capacity and emissions of the oxidizer/boiler to ensure the unit meets BACT and that the NAAQS would not be violated. 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

⁴ The draft revised construction permit does not provide for increases in annual permitted particulate or HAP emissions.

(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 associated with the proposed plant, such that a claim of statutory or common law nuisance could be demonstrated.